

I-405 Bellevue Nickel Improvement Project I-90 to Southeast 8th Street

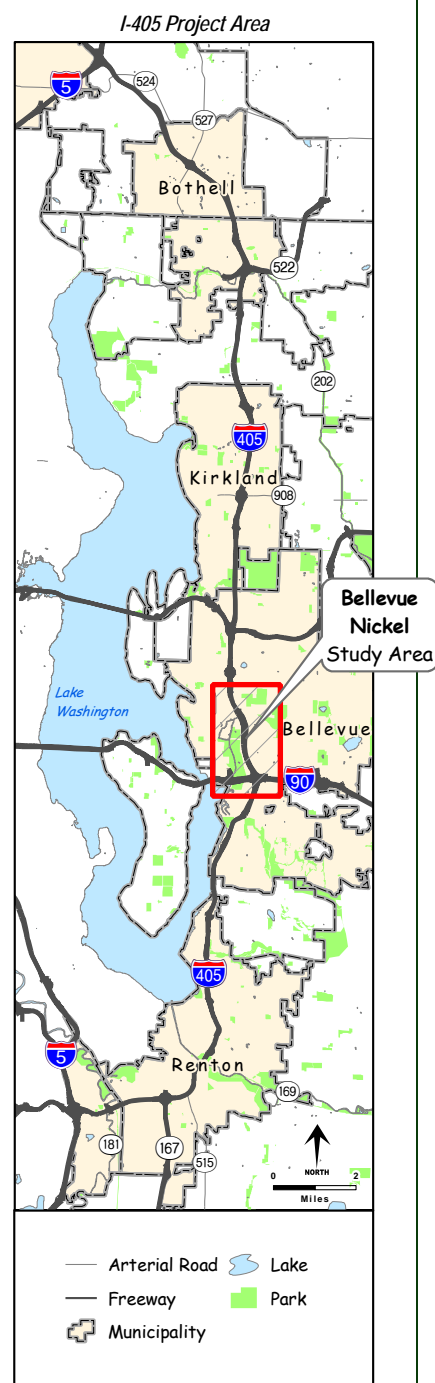


Corridor Program

Congestion Relief & Bus Rapid Transit Projects

VISUAL QUALITY DISCIPLINE REPORT

January 2006



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Glossary

BMPs	BMPs are generally accepted techniques that, when used alone or in combination, prevent or reduce adverse effects of a project. Examples include erosion control measures and construction management to minimize traffic disruption. Please see Appendix A for a complete list of BMPs.
intactness	Measures the visual integrity of the natural and built landscape and its freedom from encroaching elements.
landscape unit	Subunits of a study area that make evaluating the entire study area easier. Visual character and visual continuity define these landscape units.
unity	Measures the compositional harmony of the landscape or the degree of visual coherence when considered as a whole
view	Aspects of the environment that a viewer can see from the study area and what the viewer can see of the project from nearby surroundings.
viewer	Person who has views of or from the project. We usually discuss viewers in terms of general categories of activities, such as resident, motorist, or pedestrian, and we often refer to them as "viewer groups."
viewer exposure	The exposure of a viewshed. This is a function of the number of viewers, number of views seen, distance of the viewers, and viewing duration.
viewer sensitivity	The extent of the viewer's concern for a particular view or viewshed.
viewshed	The area that a viewer can see from the project and surrounding area.
viewpoint	An identified location and position of a viewer.
visual character	Impartially describes what exists within the landscape. Both natural and built landscape features and their relationships make up the character of an area or view. The perception of visual character can vary significantly between seasons and can even vary between hours as weather, light, shadow, and the elements that compose the viewshed change. The basic components used to describe visual character for most visual assessments are the elements of form, line, color, and texture of the landscape features. To further define visual character, the appearance of the landscape is described in terms of its dominant features, scale, diversity, and continuity.
visual quality	An assessment of the visual character, which identifies the character-defining features for selected views.
vividness	Describes how the elements of landform, water, vegetation, and human development combine to form a memorable composition.

Acronyms and Abbreviations

BMP	best management practice
BNSF	Burlington Northern Santa Fe Railroad
CEQ	Council on Environmental Quality
CSS	context sensitive solutions
EA	environmental assessment
EIS	environmental impact statement
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HOV	high-occupancy vehicle
I-405	Interstate 405
I-90	Interstate 90
NB	northbound
NEPA	National Environmental Policy Act
ROD	record of decision
SAFETEA	Safe, Accountable, Flexible, and Efficient Transportation Act of 2003
SB	Southbound
SE	Southeast
SEPA	State Environmental Policy Act
TEA	Transportation Equity Act of the 21 st Century
VQ	visual quality
WSDOT	Washington State Department of Transportation

Introduction

In 1998, the Washington State Department of Transportation (WSDOT) joined with the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), Central Puget Sound Regional Transit Authority (Sound Transit), King County, and local governments in an effort to reduce traffic congestion and improve mobility in the Interstate 405 (I-405) corridor. In fall 2002, the combined efforts of these entities culminated in the *I-405 Corridor Program Final Environmental Impact Statement (EIS)* and *FHWA Record of Decision (ROD)*.

The ROD selected a project alternative that would widen I-405 by as many as two lanes in each direction throughout its 30-mile length. The ultimate configuration of the selected alternative includes buffers separating general-purpose lanes from parallel high-occupancy vehicle (HOV) lanes (potentially used by future high-capacity transit). The design also allows for expanded “managed lane” operations along I-405 that could include use of HOV lanes by other user groups, such as trucks.

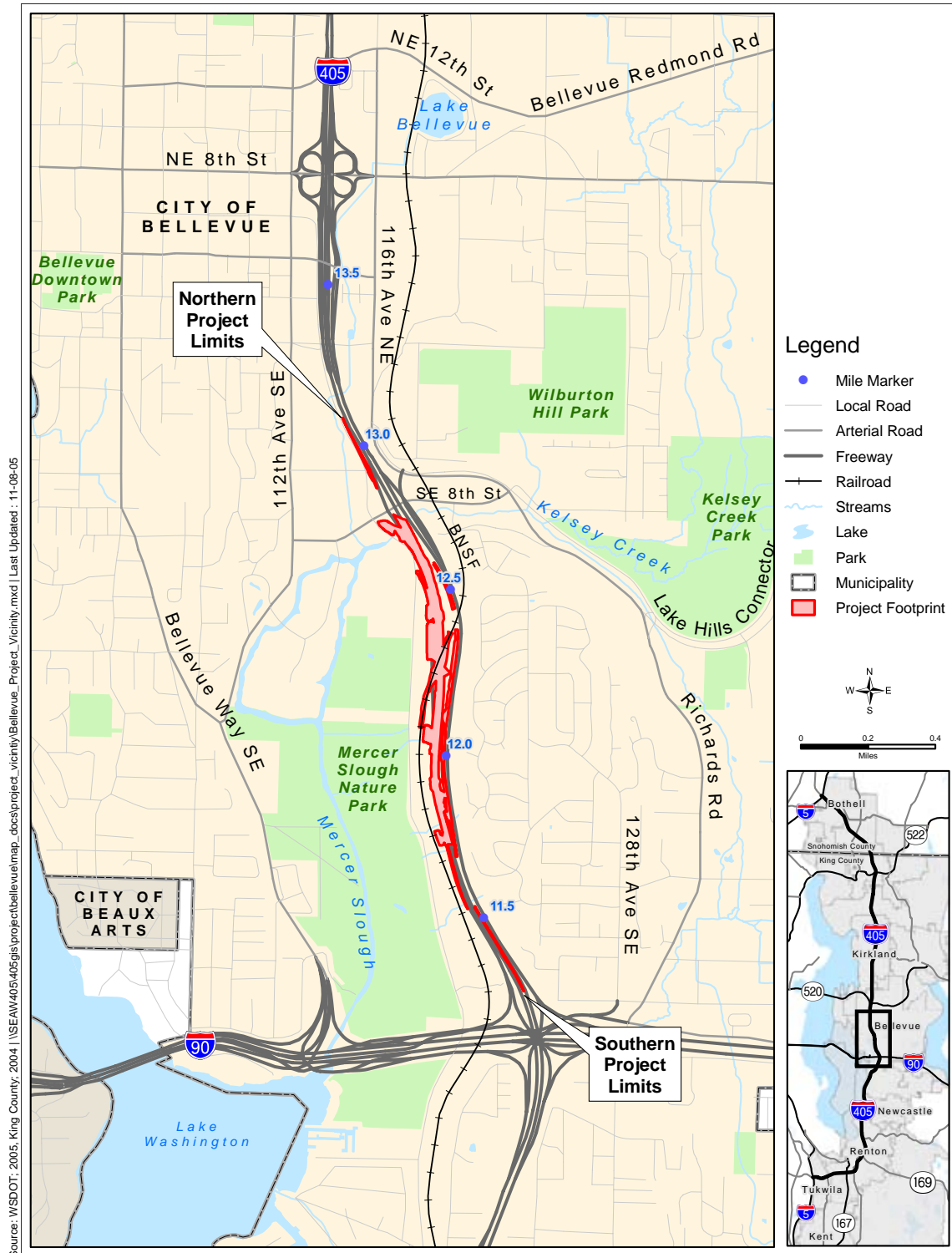
In 2003, the Washington State legislature approved a statewide transportation-funding plan called the “nickel package.” The nickel package provided funding for congestion relief projects in three critical traffic hotspots along the I-405 Corridor: Renton, Bellevue, and Kirkland. The Bellevue Nickel Improvement Project is one of several projects now moving forward as part of a phased implementation of the I-405 Corridor Program. Exhibit 1 shows the location of the Bellevue Nickel Improvement Project.

In 2003, the Washington State legislature approved a statewide transportation-funding plan called the “nickel package.” The nickel package provides funding for congestion relief projects in three critical traffic hotspots along the I-405 Corridor, including Bellevue.



Traffic moving along I-405

Exhibit 1. Project Vicinity Map



In keeping with the direction established in the Final EIS and ROD, we are preparing a National Environmental Policy Act (NEPA) Environmental Assessment (EA) that focuses on project-level effects of constructing and operating the Bellevue Nickel Improvement Project.

We will base the EA on the analysis in the *I-405 Corridor Program Final EIS*, and will describe any new or additional project changes, information, effects, or mitigation measures not identified and analyzed in the corridor-level Final EIS (FEIS). The project-level EA for the Bellevue Nickel Improvement Project will not reexamine the corridor-level alternatives, impacts, and mitigation measures presented in the corridor-level FEIS, or the decisions described in the ROD.

The Environmental Assessment will describe new project changes, information, effects, or mitigation measures, but the assessment will not revisit the alternatives, impacts, and mitigation measures evaluated in the corridor-level EIS or the decisions documented in the *Record of Decision*.

What alternatives do we analyze in this discipline report?

This discipline report is one of 19 environmental elements WSDOT will study to analyze the effects of the Bellevue Nickel Improvement Project. All of the discipline reports will analyze one build alternative and one “no build” or “no action” alternative. This approach is consistent with FHWA’s guidelines for preparing a NEPA EA.

What is the No Build Alternative?

NEPA requires us to include and evaluate the No Build Alternative in this discipline report. We use this approach to establish an existing and future baseline for comparing the effects associated with the Build Alternative. We assume the No Build Alternative will maintain the status quo: only routine activities such as road maintenance, repair, and safety improvements would occur within the corridor between now and 2030. The No Build Alternative does not include improvements that would increase roadway capacity or reduce congestion on I-405. We describe these improvements further in the Bellevue Nickel Improvement Project Traffic and Transportation Discipline Report.

We assume the No Build Alternative will maintain the status quo: only routine activities such as road maintenance, repair, and safety improvements would occur within the corridor between now and 2030.

What are the principal features of the Build Alternative?

The Bellevue Nickel Improvement Project will add one new general-purpose lane in each direction along a 2-mile section of I-405 between I-90 and SE 8th Street. We will generally use the

inside or “median” side of I-405 for construction. After we re-stripe the highway, the new lanes will occupy the outside of the existing roadway. The project also includes new stormwater management facilities and better drainage structures and systems.

Other project activities include developing off-site wetland mitigation as well as on-site stream mitigation areas to compensate for the loss of these resources within the project area. We expect project construction to begin in spring 2007 and the improved roadway to be open to traffic by fall 2009.

Improvements to Southbound I-405

We will add one lane in the southbound direction of I-405 from approximately SE 8th Street to I-90.

In the southbound (SB) direction, we plan to add one new travel lane from approximately Southeast (SE) 8th Street to I-90 (Exhibits 2, 3, and 4). In addition, the existing outside HOV lane at I-90 will be extended north so that it begins at the on-ramp from SE 8th Street. In order to add these lanes and maintain traffic flow during construction, we will shift approximately 3,000 feet of the SB roadway as much as 200 feet east into the existing median. The relocated SB roadway will connect to the existing SB travel lanes just north of the I-90 interchange, and south of the existing bridge over SE 8th Street.

We will build a new tunnel underneath the Burlington Northern Santa Fe (BNSF) railroad, just east of the existing Wilburton Tunnel, to accommodate the relocated and widened SB roadway. The existing tunnel does not have the capacity to accommodate additional lanes of SB traffic.

The existing SB travel lanes and the Wilburton Tunnel will remain open to traffic during construction of the new tunnel and the relocated/widened SB lanes. We will also build the new tunnel wide enough to accommodate additional lanes. The existing tunnel will remain after we complete the improvements.

Exhibit 3. Proposed Bellevue Nickel Project Improvements (Sheet 2 of 3)

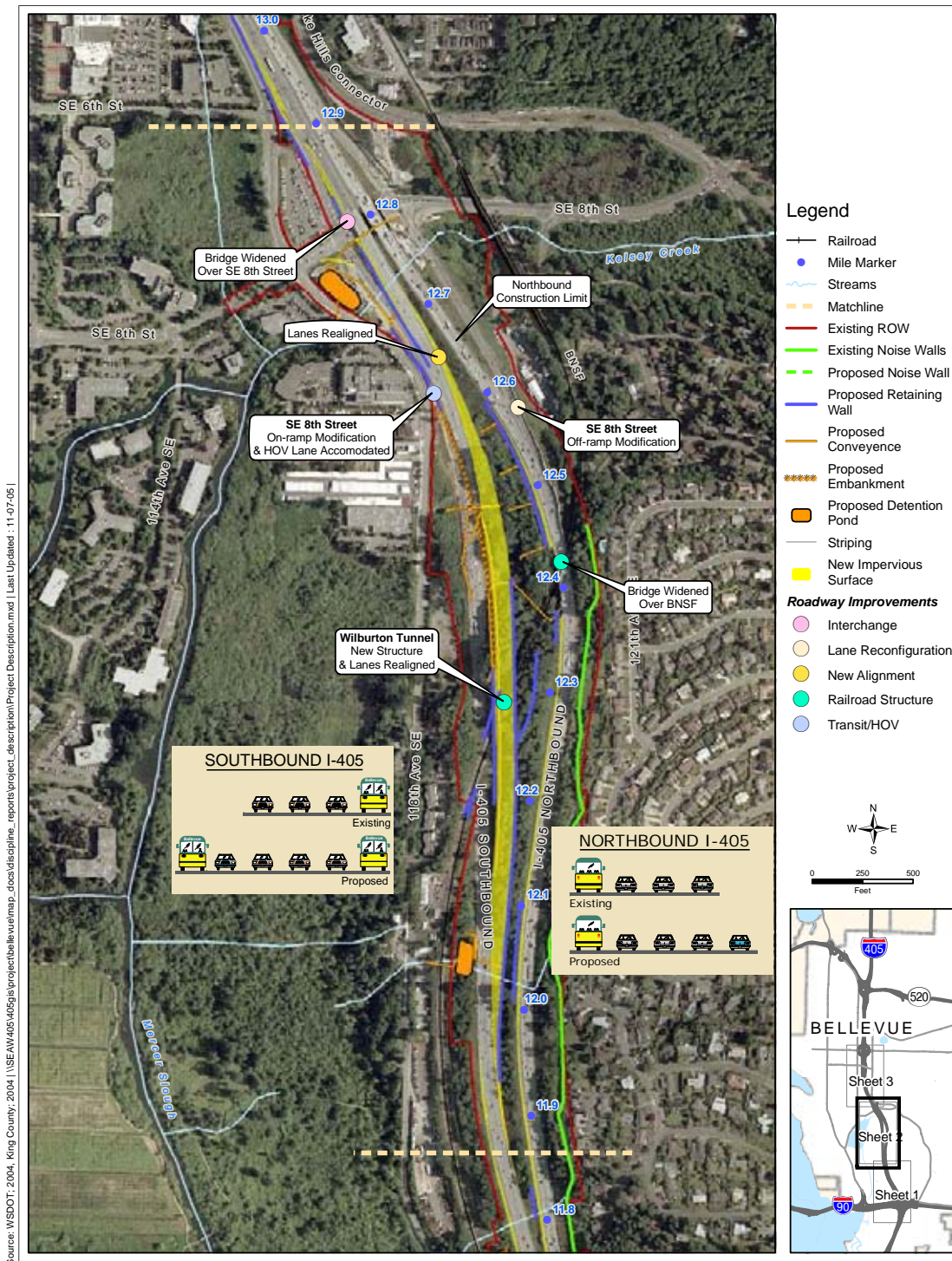
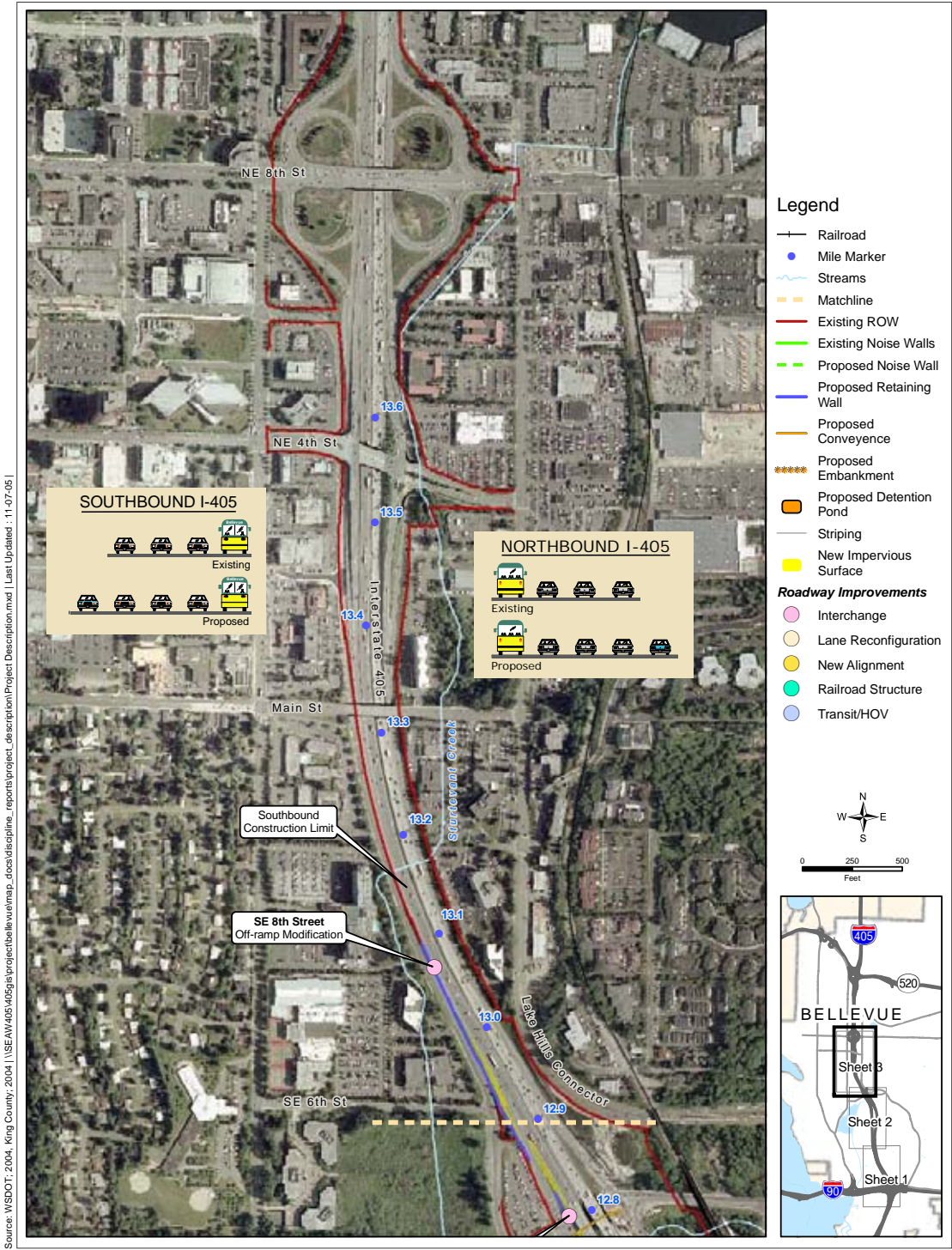


Exhibit 4. Proposed Bellevue Nickel Project Improvements (Sheet 3 of 3)



We will also include the following improvements in the Build Alternative:

- Modify the existing off-ramp at SE 8th Street to make room for an additional southbound lane on I-405. The off-ramp will then become a single-lane, optional off-ramp (i.e., the off-ramp will no longer be an “exit only” off-ramp).
- Build a retaining wall between the SB travel lanes and the off-ramp at SE 8th Street.
- Widen the existing bridge over SE 8th Street to the west to accommodate the new SB lane.
- Modify the existing on-ramp at SE 8th Street to tie into the relocated SB general-purpose travel lanes.
- Reconfigure the on-ramp at SE 8th Street to accommodate the extended outside HOV lane.
- Temporarily shift the existing BNSF railroad track from its current alignment to allow for continuous railroad operation during construction of the new tunnel.
- Construct retaining walls along the eastern edge of the relocated SB travel lanes.

Improvements to Northbound I-405

In the northbound (NB) direction, we plan to add one new travel lane from approximately I-90 to SE 8th Street (Exhibits 2, 3, and 4). We will add one new lane to the NB ramp from I-90. We will shift the NB lanes to allow all of the proposed widening to occur on the inside, or median side of the existing roadway.

Additional improvements include:

- Re-stripe the westbound/eastbound I-90 on-ramp to NB I-405 resulting in one lane becoming two lanes in the NB direction.
- Widen, shift, and re-stripe NB I-405 travel lanes north of I-90 to allow the westbound I-90 to NB I-405 on-ramp and the eastbound I-90 to NB I-405 on-ramp to enter I-405 without having to merge into a single lane.
- Construct several retaining walls needed for road widening in locations that allow for existing and future widening of I-405.

We will add one lane in the northbound direction of I-405 from approximately I-90 to SE 8th Street. All widening of the northbound mainline will occur on the inside (median side) of the existing roadway.

- Construct a noise barrier approximately 725 feet long and 16 feet high (see Exhibit 2).
- Widen the existing bridge over the BNSF Railroad to the west to accommodate the new NB lane.
- Modify the NB off-ramp to SE 8th Street to make it a single-lane “exit-only” off-ramp.
- Transition the NB travel lanes back into the existing lane configuration before crossing over SE 8th Street.

Improvements to the Stormwater Management System

Managing stormwater for the I-405 Bellevue Nickel

Improvement Project involves the collection and treatment of rainfall runoff from the new project pavement consistent with the guidelines in the WSDOT Highway Runoff Manual.

Currently, we treat less than 5 percent of the existing runoff from paved surfaces in the project area before discharging it. We will improve this condition by treating 17 percent more area than the new paved surface area we create. By treating a greater area, we improve flow control and remove pollutants from a portion of the existing roadway as well as from newly constructed areas.

Reconfiguration and new construction associated with the SB lanes will mean that we need to replace much of the existing drainage system. We will continue to use open roadside ditches along the shoulders of the roadway shoulders where possible. We will use standard WSDOT catch basins and manhole structures to move the roadway runoff to a system of stormwater drain pipes. These features will transport runoff to treatment and flow-control facilities within the existing ROW.

We will construct three new stormwater ponds (detention ponds combined with stormwater treatment wetlands) as part of the project and enlarge the existing pond at SE 8th Street. Two of the new ponds will be located south of the Wilburton Tunnel between the SB lanes and the BNSF railroad ROW. We will construct the third new pond in the northwest quadrant of the I-90/I-405 interchange. The project will discharge treated stormwater following existing flow patterns to Mercer Slough or to the wetlands that surround it.

Avoidance and Minimization Measures

WSDOT will use Best Management Practices (BMPs), WSDOT Standard Specifications, and design elements to avoid or minimize potential effects to the environment from the Bellevue

Best Management Practices (BMPs)

BMPs are generally accepted techniques that, when used alone or in combination, prevent or reduce adverse effects of a project. Examples include erosion control measures and construction management to minimize traffic disruption. Please see Appendix A for a complete list of BMPs.

WSDOT Standard Specifications

Guidelines and procedures established by WSDOT for roadway design and construction in a variety of design, engineering, and environmental manuals.

Nickel Improvement Project. We know these measures to avoid or minimize potential effects to the environment collectively as “avoidance measures.” We describe these measures in more detail in Appendix A. If the Bellevue Nickel Improvement Project has additional effects not addressed in the avoidance measures, we will address these measures through mitigation.

Wetland and Stream Mitigation Sites

We will compensate for adverse effects to wetlands and their buffers by creating just over an acre of wetland within the boundaries of Kelsey Creek Park (Exhibit 5). The site is located north of the intersection of Richards Road and the Lake Hills Connector.

Our general concept will be to create an area that will transition from forested land beside the Lake Hills Connector to wetlands within Kelsey Creek Park. We will reshape the surface area to create favorable conditions for the necessary wetland aquatic characteristics, and we will replant and enhance habitat in the area by constructing habitats and replanting adjacent roadside areas with forest-type vegetation.

Similarly, we will compensate for unavoidable effects to “Median Stream,” the unnamed stream within the I-405 median. We have developed a conceptual stream mitigation plan that includes on-site habitat restoration and creation. The conceptual stream mitigation plan includes the following specific elements (See Exhibit 6):

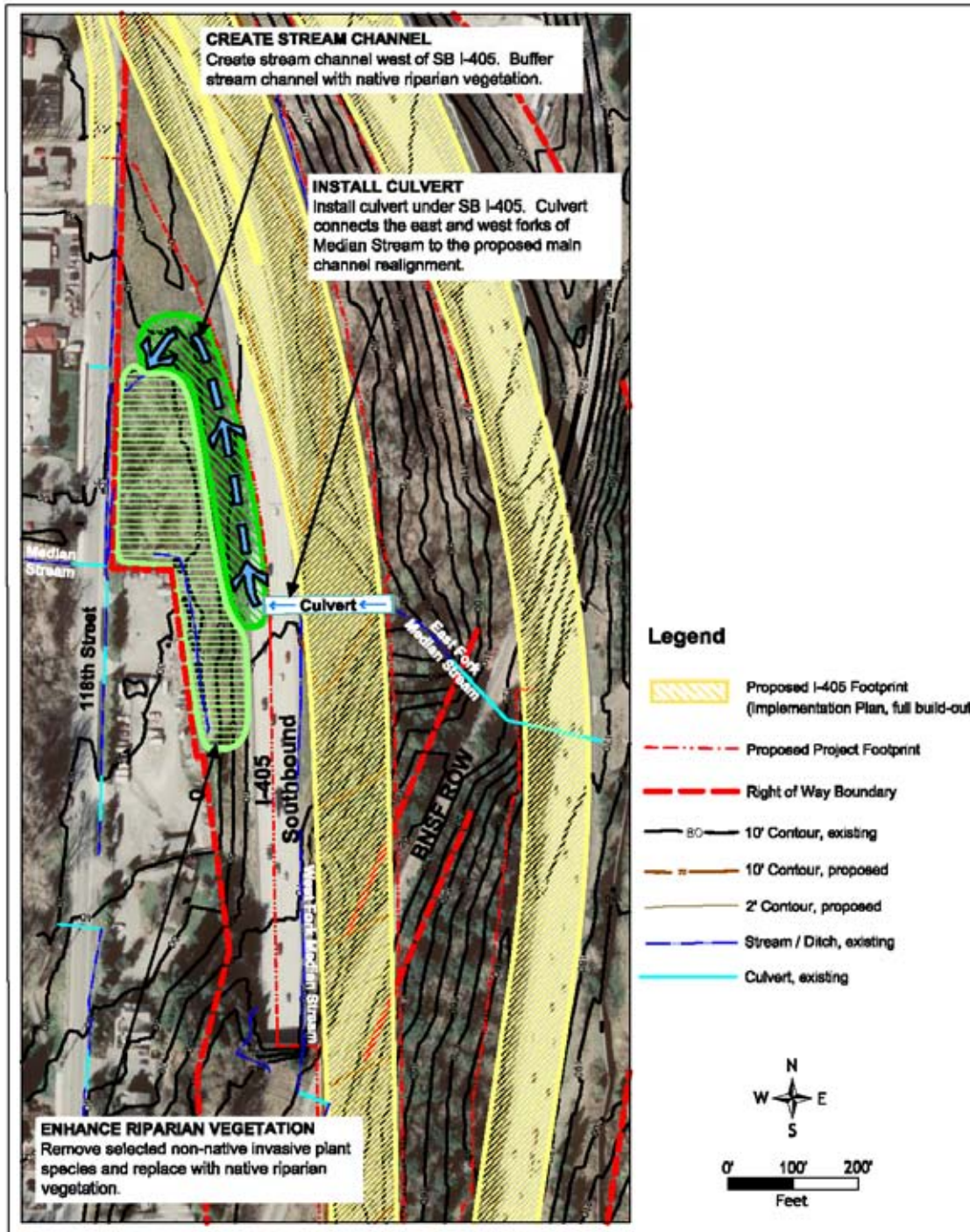
- Connect the new Median Stream culvert under I-90 to the existing channel and wetland located west of SB I-405.
- Create approximately 500 linear feet of stream channel along the western slope of SB I-405.
- Buffer the created stream channel with approximately 16,000 square feet of native streamside vegetation.
- Enhance approximately 300 linear feet of riparian habitat west of SB I-405 by removing selected non-native invasive plant species and replacing with native streamside vegetation.

We provide more detailed information about mitigation efforts planned in conjunction with the Bellevue Nickel Improvement in the Surface Water, Floodplains, and Water Quality, and Wetlands Discipline Reports.

Exhibit 5. Proposed Wetland Mitigation Area



Exhibit 6. Conceptual Stream Mitigation Plan



Why do we consider visual quality as we plan this project?

The construction or modification of public highways can have a considerable effect on the quality and character of the landscape. Visual resources along a highway are particularly important; research has shown (FHWA 1988) that the view from the road is the basis for much of what people know about the everyday environment and helps to shape their mental image of the landscape.

Due to the public nature and visual importance of highway projects, we must adequately assess and consider both negative and positive visual effects during project development. The National Environmental Policy Act (NEPA) requires that all actions sponsored, funded, permitted, or approved by federal agencies undergo planning to ensure that environmental considerations such as effects related to aesthetics and visual quality are given due weight in project decision making. The State Environmental Policy Act (SEPA) mandates a similar procedure for state and local actions. The assessment is also useful in identifying how we can design project elements to harmonize with the surrounding landscape.

This visual quality assessment reviews and analyzes the visual or aesthetic effects of the Bellevue Nickel Improvement Project. We analyze visual effects from two viewpoints: the view from the road and the view toward the road. The analysis describes both the character of the visual experience along I-405 as well as the effect of the proposed action upon the viewer.

Visual quality is by nature subjective. Each of us sees the world through our own eyes and what we “see” is influenced to a large degree by our personal values, expectations, and interests.

FHWA has developed an analytical method for assessing visual quality effects that removes this subjectivity and allows a more objective assessment of visual effects. WSDOT used this method, described in detail in the handbook *Visual Impact Assessment for Highway Projects* (FHWA, 1988) to conduct the visual quality assessment for the Bellevue Nickel Improvement Project.

Visual Quality

The visual character of the landscape, including the defining features, composition, and compatibility of elements within the landscape. It contributes to the visual value of a setting.

What are the key points of this report?

We expect the Build Alternative to permanently change the visual environment for both I-405 users and neighbors. Visual changes as a whole will not be substantial, as the majority of the work will occur within the existing right of way. The most visually noticeable changes will be associated with the removal of existing vegetation and construction of noise and retaining walls. The potential effects will likely include:

- Views of additional pavement created by new travel lanes.
- Increased visibility to and from I-405 due to removal of existing mature vegetation and large stands of trees within the median located between the northbound and southbound roadways.
- Views of approximately 50-foot retaining walls along the eastern edge of the southbound roadway.
- Views of a noise barrier approximately 725 feet long and 16 feet high, along the eastern edge of the I-405 right of way.
- Minor changes in distant views to visual resources such as Mt. Rainier or the Bellevue skyline for I-405 neighbors east of the corridor.
- Low to moderate changes to lighting, glare, and shading.
- Temporary visual quality effects associated with views of construction equipment, stockpiled materials, cut-and-fill activities, vegetation removal, and nighttime lighting.

We have incorporated “context sensitive solutions” (CSS) to minimize the visual effects of the project. We have also incorporated avoidance and minimization measures typical for transportation projects, such as retaining existing natural vegetation to the greatest extent possible and planting new vegetation to screen constructed features. Other treatments, such as enhancing the design of retaining walls and noise walls, are additional techniques included in the project activities to reduce the apparent scale and mass of these structures.



I-405 plays a critical role in the regional movement of people and freight.

Existing Conditions

How did we collect the visual assessment information?

We analyzed existing conditions by visiting the project vicinity and the surrounding area multiple times. During these site visits, we documented existing conditions such as potential viewers, visual resources, and viewsheds. We also documented and photographed visual resources at selected viewpoints during the site analysis. Subsequent to the site visits, we reviewed additional background materials such as maps, aerial photographs, and City of Bellevue planning and policy documents. We also reviewed the public comments gathered during the scoping phase. We considered community concerns regarding key views and concerns regarding light, shadow, and glare. In addition, we reviewed relevant information from other discipline reports, such as Historic, Cultural, and Archaeological Resources and Land Use Plans and Policies.

With this information as the starting point, we documented the visual quality of existing conditions following the methodology in the *Visual Impact Assessment for Highway Projects* handbook. This methodology includes the following components:

- Identify the existing regional visual character.
- Identify the affected viewshed.
- Determine the visual resources of the project site.
- Identify key views to and from the project site.

Viewshed

The visible surface area from an observer's point of view. We define viewsheds by what viewers can see from the project and what portions of the project viewers can see from the surrounding area.



Congestion building along the I-405 corridor

- Determine the viewers—those who have a view of and from the project.
- Describe and evaluate the visual landscape under current conditions (No Build Alternative).
- Identify the importance to people, or sensitivity, of views of the visual resources in the landscape.

What tools and vocabulary did we use for this visual effects assessment?

FHWA’s method for assessing visual effects uses a generally accepted set of tools and well-defined terms to describe the visual effects assessment. We describe a number of important terms used in this report below:

Views: Aspects of the environment that viewers can see from the study area and what viewers can see of the project from nearby surrounding areas.

Viewers: People who have views of or from the project. We usually discuss viewers in terms of general categories of activities, such as resident, motorist, or pedestrian, and we often refer to them as “viewer groups.”

Viewpoint: An identified location and position of a viewer. For example, a motorist driving northbound on I-405 at SE 8th Street has a view of downtown Bellevue from a particular point along the corridor.

Viewer Exposure: The exposure of a viewshed. This is a function of the number of viewers, number of views seen, distance of the viewers, and viewing duration.

Viewer Sensitivity: The extent of the viewer’s concern for a particular view or viewshed. Viewer sensitivity considers a combination of the following three factors for a specific view:

- How many people see that view?
- How long can they see the view? Motorists such as commuters, local users, tourists, and drivers of commercial vehicles typically see views for a short time (duration) due to the speed of travel, while pedestrians and adjacent properties can see views for longer durations.
- What is their level of concern likely to be about the aesthetics and quality of the view? The level of concern is a subjective response influenced by the visual character of the

surrounding landscape, the activity that occupies a viewer, and his or her values, expectations, and interests.

When fewer people can see a defined view or they are not particularly concerned about the view, the analysis shows low “viewer sensitivity” results. High “viewer sensitivity” occurs when many viewers see a view frequently or for long periods of time, the view is a part of the setting or activity the viewer is involved in, and they are very aware of and concerned about a view. Viewer sensitivity does not imply support for or opposition to a proposed view.

Visual Character: Describes both natural and built landscape features and the relationships between them that make up the character of an area or view. The perception of visual character can vary significantly between seasons and even between hours as weather, light, shadow, and the elements that compose the viewshed change. The basic components used to describe visual character for most visual assessments are the form, line, color, and texture of the landscape features. To further define visual character, we describe the appearance of the landscape in terms of its dominant features, scale, diversity, and continuity. The resources and features used to define visual character include the following:

- Landforms: types, gradients, and scale
- Vegetation: types, size, maturity, and continuity
- Land uses: size, scale, and character of associated buildings
- Transportation facilities: types, sizes, scale, and orientation
- Overhead utility structures and lighting: types, sizes, and scale
- Open space: type (e.g., parks, reserves, greenbelts, and undeveloped land), extent, and continuity
- Viewpoints and views to visual resources
- Water bodies, historic structures, and downtown skylines
- Apparent “grain” or texture, such as the size and distribution of structures and open spaces of the landscape
- Apparent upkeep and maintenance of natural and built landscape features

Visual Quality: An assessment of the visual character, which identifies the character-defining features for selected views. This assessment asks: Is this particular view common or dramatic? Is it a pleasing composition (with a mix of elements

that seem to belong together) or not (with a mix of elements that either do not belong together or are eyesores and contrast with the other elements in the surroundings)? We evaluate visual quality based on the relative degree of vividness, intactness, and unity.

Vividness: Describes how the elements of landform, water, vegetation, and human development combine to form a memorable composition. We rank vividness on a scale of 1 to 7, with a rating of 7 indicating a high (desirable) degree of vividness.



Dense stand of evergreen trees

Intactness: Measures the visual integrity of the natural and built landscape and its freedom from encroaching elements. Well-kept urban and rural landscapes can have a high degree of intactness. High intactness means that the landscape is free of eyesores and any features that are out of place do not disrupt the visual integrity of the landscape. For example, a dense stand of evergreen trees would have high intactness. We also rank intactness on a scale of 1 to 7, with a rating of 7 indicating a high (desirable) degree of intactness.

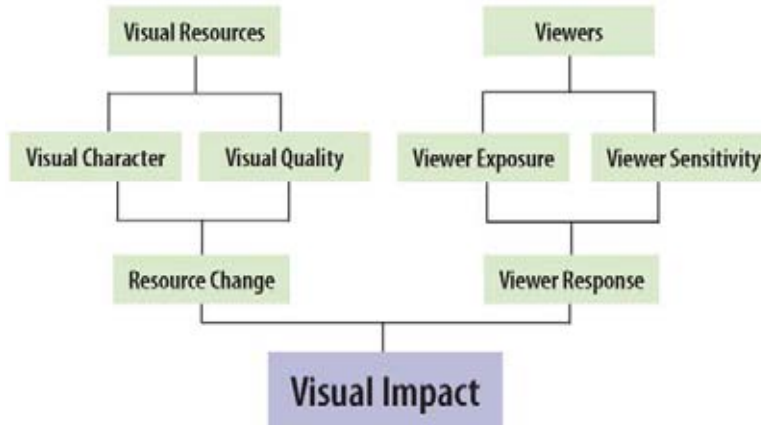
Unity: Measures the compositional harmony of the landscape or the degree of visual coherence when considered as a whole. High unity frequently reflects the careful design of individual components and their relationship in the landscape. We rank unity on a scale of 1 to 7, with 7 representing a landscape with a coherent, harmonious (desirable) visual pattern.

The FHWA *Visual Assessment Method* also uses three important analytical tools, which we use in this report and describe below:

- **Landscape Units:** Subunits of a study area that make evaluating the entire study area easier. Visual character and visual continuity define these landscape units.
- **Viewsheds:** Defined as the study area that viewers can see from the surrounding area.
- **Visual Simulations:** A means of graphically depicting the probable changes due to the project and the scales of the existing and proposed features from key viewpoints.

Exhibit 7 shows how these various terms relate to one another and how they are tools that we can use to determine project effects.

Exhibit 7. The Visual Environment



Source: Visual Impact Assessment for Highway Projects, FHWA 1988.

What is our study area and how did we determine it?

We call the area we studied in this visual quality assessment the project viewshed. We define the project viewshed as areas that those traveling on I-405 can see from the roadway and the surrounding areas with views toward the project, without regard for the screening effects of vegetation and structures, as if the land were bare. Typically, if viewers can see an area or a feature from the project, a viewer located in that area or near the feature can also see the project. For the I-405 Bellevue Nickel Improvement Project, the viewshed is larger than the study area because the I-405 corridor is visible from locations beyond the limits of the study area. Tree masses, dense vegetation, and the rolling topography within the study area limit the overall viewshed visible from the Bellevue Nickel Improvement Project.

We first estimated the overall viewshed, as depicted in Exhibits 8, 9, and 10, by mapping the approximate limits of the viewshed based on the landscape and terrain. We subdivided the overall viewshed into three smaller landscape units, each with its own distinctive visual character.

Exhibit 8. Viewshed and Landscape Units (Sheet 1 of 3)

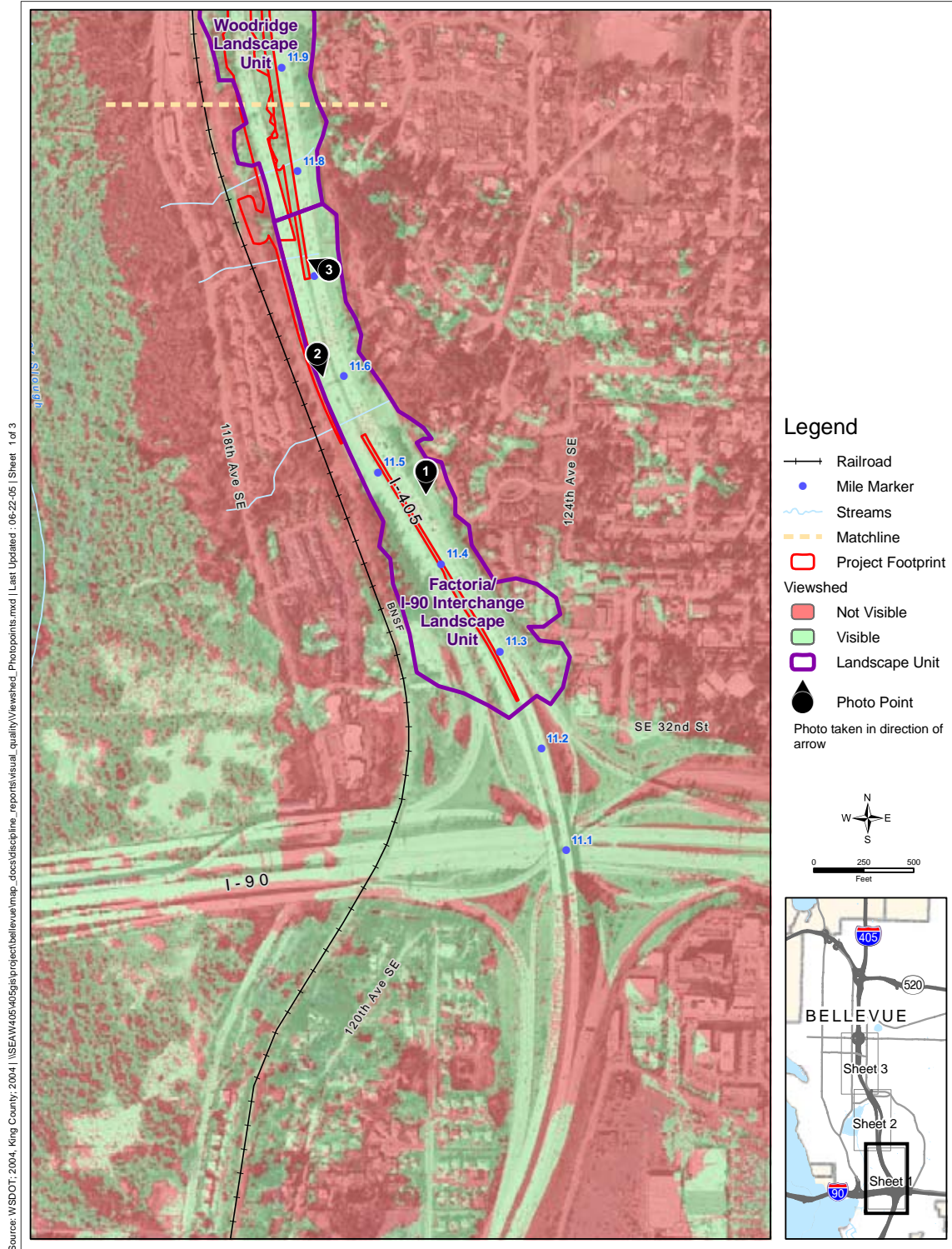


Exhibit 9. Viewshed and Landscape Units (Sheet 2 of 3)

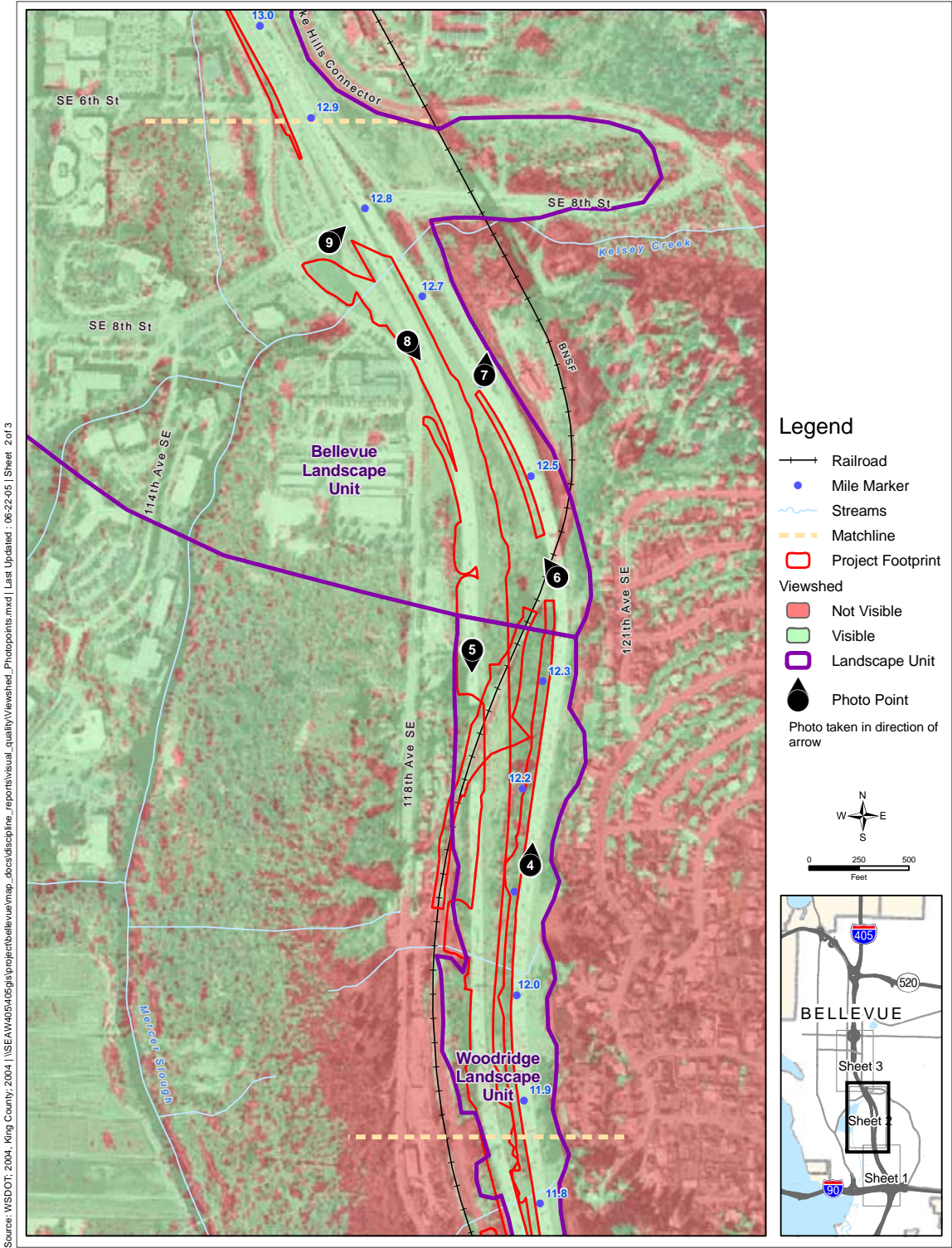
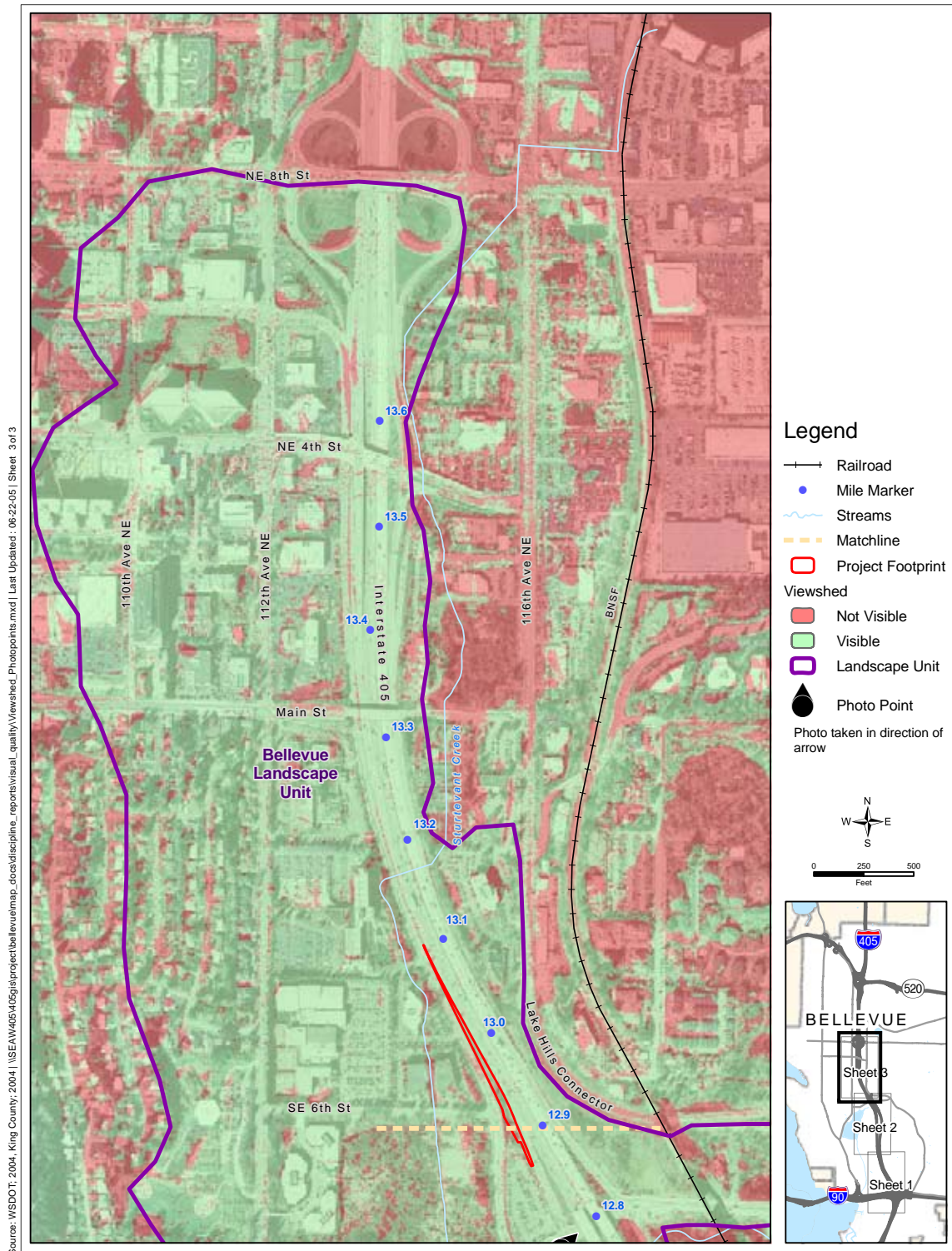


Exhibit 10. Viewshed and Landscape Units (Sheet 3 of 3)



We then identified the visual resources within the study area, primarily through several site visits, community input, and review of existing plans, policies, and maps. We also selected key viewpoints to represent the range of views in the study area. We describe them later in this report and include five views from I-405 and four views to I-405.

Visual Resources in the study area:

- Downtown Bellevue skyline
 - Wilburton Trestle
 - Mount Rainier
 - Mercer Slough Nature Park/Blueberry Fields
-

What government regulations apply to the views and visual characteristics within the study area?

A number of federal and state regulations ensure that the effects of transportation projects on visual resources and aesthetics are adequately considered. NEPA Section 101 (b)(2) states that it is the “continuous responsibility” of the federal government to “use all practicable means” to “assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings.” Federal regulations that address visual quality include the following:



Wilburton Trestle

Federal Regulations

- National Environmental Policy Act (NEPA), 42 USC Section 4231-4335; Section 101(b)(2)
- FHWA-23 CFR 771-Environmental Impact and Related Procedures
- Transportation Equity Act for the 21st Century (TEA-21)
- Safe, Accountable, Flexible, and Efficient Transportation Act of 2003 (SAFETEA)
- Council on Environmental Quality (CEQ); 40 CFR 1500-1508
- Section 4(f) of the Department of Transportation Act, 49 USC 303(b)-303(c)
- Highway Beautification Act, 23 USC, 131, 136, and 319 and 23 CFD 750-752
- Wild and Scenic Rivers Act, 16 USC 1271-1287
- Historic Preservation Act, 16 USC 470f

State Regulations

In addition to federal regulations, several state regulations address visual quality and aesthetics, including those listed below:

- State Environmental Policy Act (SEPA) (Chapter 197-11 WAC, Chapter 43.21C RCW)
- Transportation Commission and Transportation Department State Environmental Policy Act Rules (Chapter 468-12 WAC)
- Highway Beautification Act (Chapter 47.40.010 RCW)
- Open Space Land Preservation Act (Chapter 84.34 RCW)

Policy Guidance

The FHWA and the WSDOT also provide policy and standards guidance related to aesthetics and visual quality such as in the following:

- FHWA Visual Impact Assessment for Highway Projects, Publication No. FHWA-HI-88-054, 1988
- FHWA Technical Advisory T6640.8A (October 1987)
- WSDOT Environmental Procedures Manual M 31-11, September 2004
- WSDOT Roadside Classification Plan (M 25-31)
- WSDOT Roadside Manual (M 25-30, Section 500)

Local Regulations

In addition to the federal and state regulations and guidance, we also reviewed local policies for relevance. In coordination with the *Land Use Patterns, Plans, and Policies Discipline Report*, we reviewed the City of Bellevue's Comprehensive Plan for applicability including the Urban Design Element, Richards Valley Subarea Plan, and Southwest Bellevue Subarea Plan. We list Bellevue policies related to views and visual quality below:

- Policy UD-23. Preserve and enhance views of water, mountains, skylines, or other unique landmarks from public places as valuable civic assets.
- Policy UD-41. Design vehicular and pedestrian routes to be visually appealing connections between different parts of Bellevue.

- Policy UD-50. Work with the state to achieve high quality design on new freeway projects, with special consideration for both views from the freeway and views of the freeways.
- Policy UD-51. Encourage dense plantings, hedges, or large fast-growing trees to act as visual screens at locations where existing views of or from freeways are unappealing.
- Policy UD-79. Identify vista points and landmarks such as major trees, buildings, and landforms for preservation as Bellevue develops.

What is the visual character of the study area?

The rolling terrain between Milepost 11.3 and Milepost 12.9 is due to a north-south trending ridge-valley system, which generally slopes toward Lake Washington (See Exhibits 8, 9, and 10.). The north- and southbound travel lanes of I-405 generally parallel the topography and are terraced along the hillside within the study area. The northbound travel lanes are upslope of the southbound lanes within the northern portion of the study area. A wide landscaped median separates the north- and southbound travel lanes. Where the median and topographic changes exist, the visibility to the northbound lanes is limited from the southbound lanes, and vegetation tends to obscure views to I-405 from properties west of the corridor.

Within the project limits, the general character of the I-405 corridor includes a variety of visual experiences such as forested roadside areas that transition to more open views of valleys and urban landscapes. A mix of urban and natural landscapes characterizes the regional setting.

Even though the region is highly developed, views of Lake Washington, the Cascade Mountains, Mount Rainier, and Bellevue skylines create an exceptional visual backdrop.

The I-405 freeway is screened by vegetation along much of its edge, as well as by vegetation and structures in surrounding neighborhoods. Nevertheless the roadway is visible from residential neighborhoods to the east. Views toward the roadway are limited in some areas by local topography, vegetation, and sound walls.

West of the project corridor, the primary view of I-405 is near the SE 8th Street interchange. There is little existing vegetation in this area to screen the corridor from view. The taller office



I-405 looking north

Semi-urban Landscape

Based on the WSDOT Roadside Classification Plan, a semi-urban landscape is characterized by intermixed built and natural or naturalized elements, with built elements prevailing.

A roadside classified as semi-urban is transitional in character. Vegetation comprises native and non-native species. Trees and large shrubs are predominant where sufficient right of way is available (WSDOT 1996).

Urban Landscape

The urban landscape is a predominantly built environment. A roadside classified as urban is characterized by elements that mirror the character of adjacent land use. Vegetation is mostly non-native (ornamental) trees, shrubs, and groundcover, with remnants of native vegetation. There is a consistent refined appearance throughout all management zones. Structures are coordinated for visual continuity throughout the corridor. Architectural detail receives special attention (WSDOT 1996).

buildings in downtown Bellevue also have a distant view to I-405.

Motorists traveling within the I-405 corridor have limited views from the roadway. Topography visually encloses most of the corridor within the study area. There are certain points along the corridor, such as the northbound approach into downtown Bellevue, where the corridor opens up into a valley with panoramic views of downtown Bellevue's skyline. Similarly, heading southbound, motorists travel through an enclosed vegetated area (roughly between Mileposts 12.2 and 11.5) until the approach to the I-90 interchange, where vistas to Mount Rainier and Newport Hills open up.

The WSDOT Roadside Classification Plan (WSDOT 1996), designates the section of I-405 from Milepost 11 to Milepost 13 as semi-urban. North of Milepost 13, the roadside area is classified as urban.

The semi-urban classification is used to describe a transitional landscape where the built elements begin to dominate the natural elements in the overall view. Vegetation in semi-urban areas typically includes a mix of non-native and native species, grass, and other understory shrubs. Trees and large shrubs are predominant where sufficient right of way is available.

In comparison, a roadside classified as urban is predominantly a built environment. Buildings and artificial features dominate an urban roadside classification. Vegetation is often non-native, used ornamentally, or arranged in formal patterns.

Landscape Units

Landscape units are "subunits" of a study area. They are a tool or means of breaking down the analysis into descriptive units, which help to characterize the visual experience within the study area. We define landscape units by visual character and continuity, clear landform or land cover characteristics usually define or enclose them. Typically, visual awareness heightens where the change between landscape units occurs, and this greater awareness will increase the vividness of the scene at that point. There are a total of three landscape units within the study area, as depicted in Exhibits 8, 9, and 10.

We defined the landscape units on the basis of similar visual features and homogeneous character. The following text describes in narrative form the landscape units within the study area from the southern to the northern project limits.

Landscape Unit 1: Factoria/I-90 Interchange

Moving northbound along the I-405 corridor, from the southern project limits north of I-90 at approximately Milepost 11.2 to approximately Milepost 11.7, the I-405 corridor has open views. Within this section of the study area, a narrow median separates the north- and southbound lanes and they have a slight grade separation as well. Heading northbound, a motorist has views west toward Mercer Slough and the southbound lanes. Toward the east, the views are constrained by topography, although some views to Woodridge neighborhood residences exist. Heading southbound, a motorist has brief views toward Mount Rainier and Newport Hills, as well as views of the northbound lanes. Vegetation and the noise walls visible along the top of the Woodridge hillside obscure most views to the east.

Landscape Unit 2: Woodridge Neighborhood

From this portion of the freeway, topography and vegetation enclose the view. A heavily vegetated median through this section of the corridor separates the northbound and southbound lanes and visually screens them from one another. The Woodridge neighborhood is primarily single-family residential and is located immediately east of the highway. Topographical changes and the presence of noise walls limit views to and from the study area from the Woodridge neighborhood. West of the highway, the dense tree cover and vegetation of Mercer Slough Nature Park characterize the landscape. Multi-family residential and some limited office and light industrial uses are located between I-405 and 118th Avenue SE; however, views to and from these uses are limited from the study area. Views of the southbound lanes from the northbound lanes are limited due to the divided median and topographic changes.

Landscape Unit 3: Bellevue

Proceeding northbound along the I-405 corridor, the landscape unit transitions near Milepost 12.4 (south of SE 8th Street), where the roadway curves in a northwesterly direction. At this location, the viewshed opens from the enclosed views of the forested Woodridge hillside to an open view towards Bellevue's city center. This landscape unit includes expansive territorial views of Bellevue west of the I-405 corridor and unobstructed views of the Bellevue downtown skyline. The tall downtown buildings are a dominant visual feature. Mature evergreen and deciduous trees, both natural and ornamental, soften views of the built environment. The Wilburton ridge limits views to the east.

The Wilburton Trestle, which extends over Lake Hills Connector Road and SE 8th Street, is located within this landscape unit. The Wilburton Trestle is a Bellevue community historic resource and is visible from both the northbound and southbound lanes. In addition to the prominence of the Wilburton Trestle, territorial views of local ridgelines and vegetation east of the I-405 corridor characterize the landscape unit. A mix of single-family residential uses, open spaces, and public facilities characterize this landscape unit.

What are “viewpoints” and how did we select them?

“Viewpoint” is a term we use to describe the assumed location and position of a viewer in the visual quality analysis. We selected a reasonable number of viewpoints within the study area to identify and compare the visual effects of the Build Alternative with the No Build Alternative. We selected viewpoints based on where the existing freeway is readily visible and where we anticipate the Build Alternative to create the greatest change. We used four primary criteria for selecting the viewpoints:

- The view is typical of other similar landscape profiles and is a public location that has a number of sensitive viewers nearby.
- The view represents moderate to high changes to visual quality or character of scenic views, historic buildings, designated viewpoints, or view corridors and is a location where there are sensitive viewers.
- The view is what a person walking, driving, or riding will see.
- A substantial portion of the roadway study area is visible from the viewpoint. This criterion does not include partial views of the transportation structure unless that partial view is visually dominant to the viewer.

How did we identify and compare the visual effects of the project?

We used the Visual Quality Criteria Rating Scale and Visual Analysis Matrix to evaluate the existing conditions and the potential effects and benefits of the Build Alternative (see Appendix B). This matrix format was provided by WSDOT and

aligns with the FHWA methodology for conducting visual quality assessments. It includes a numeric ranking system to measure visual quality. In addition, the analysis:

- evaluates the response of viewers looking at the project and from the project (viewer response);
- determines and evaluates views of and from the project before and after the project (visual simulations); and
- describes the potential visible changes to the study area and its surroundings that will result from the project.

Based on the evaluation of potential effects on visual quality and aesthetics, we identify mitigation measures, as necessary, to reduce project effects. In addition, this visual quality report evaluates light, shadow, and glare for the Build and No Build alternatives.

What is the visual quality of the study area?

Viewpoints

We selected a total of nine viewpoints, as shown in Exhibit 8, 9, and 10. We number the viewpoints from south to north. The visual quality assessment evaluates how the Bellevue Nickel Improvement Project will affect views looking both from I-405 and towards I-405. Five of the viewpoints depict views from the freeway and four viewpoints depict views towards the freeway. We evaluated the viewer's location to describe each viewpoint as well. There are limited views available toward the freeway, as vegetation, topography, noise walls, and structures screen many of the views. Existing vegetation and trees along the edges of the right of way provide an important visual screen between the roadway and adjacent properties.

Visual Quality

Visual quality is a description of the quality of particular views of the visible environment in terms of vividness, intactness, and unity, as defined earlier in this report. In addition to their use as descriptors, we use vividness, unity, and intactness more objectively as part of a rating system to assess a landscape's visual quality. We evaluate vividness, intactness, and unity independently; we assign each quality a rating from 0 to 7. On this scale, 0 = very low quality, 3-4= average/moderate quality, and 7 = very high quality.

We evaluate visual quality (VQ) using the following equation:

$$\text{Visual Quality} = \text{Vividness} + \text{Intactness} + \text{Unity}$$

3

Existing Views from the Road

Viewpoint 2: Mount Rainier and Newport Hills

Located within the Factoria/I-90 Interchange Landscape Unit, this view looks southeast from the I-405 southbound lanes on the approach to the I-90 interchange. The view looks across the southbound lanes and toward the northbound lanes in the foreground, views to Newport Hills in the middle ground, and Mount Rainier in the background. This is one of the few locations within the study area where the northbound lanes are visible from the southbound lanes. The primary viewers are motorists on I-405 southbound. This view has average/moderate vividness, intactness, and unity. Overall visual quality ranks as 4, or average.



Viewpoint 2: Looking southeast toward Mount Rainier and the Newport Hills

Viewpoint 4: Northbound travel lanes

We take this view from the perspective of a motorist traveling northbound between Milepost 11.7 and Milepost 12.2. It is located within the Woodridge Landscape Unit. The view is typical along the northbound travel lanes where the landscaped median divides the northbound and southbound lanes within the study area. Dense mature deciduous and evergreen trees and noise walls obscure views of the southbound lanes to the west. Steep topography and mature deciduous and evergreen landscaping obscure views of the single-family residences to the east. This view has moderate intactness and unity. The overall visual quality ranked 3.7, or moderately low to average.



Viewpoint 4: Looking north along I-405 northbound near Milepost 11.8

Viewpoint 5: Wilburton Tunnel

This view is from I-405 southbound looking south toward the Wilburton Tunnel. The viewpoint is located in the Woodridge Landscape Unit. The primary viewers are motorists along I-405 southbound lanes. The BNSF right of way crosses the southbound lanes at this location. The bridge is vegetated with native and non-native saplings, shrubs, and groundcover, some of which cascades down the sides of the tunnel. Vegetation and topography on both sides of the freeway obscure views east and west. This view has moderate to high vividness due to the memorability of the Wilburton Tunnel structure. The visual



Viewpoint 5: Looking south on I-405 southbound lanes towards the Wilburton Tunnel

quality is ranked 4.4 or average to moderate in quality; the intactness rating is 5.2, and it has a unity rating of 4.5.

Viewpoint 6: Downtown Bellevue

This viewpoint is from I-405 northbound near the SE 8th Street off-ramp, where the freeway curves in a northwesterly direction. At this point along the roadway, the landscaped median narrows and the landscape transitions from mature natural vegetation to low-lying shrubs and grasses. The viewpoint affords an expansive view of the downtown Bellevue skyline and territorial view of west Bellevue to the next ridgeline. The mature vegetation throughout west Bellevue obscures much of the development pattern from view. At this point, the grade separation between the southbound and northbound lanes transitions as the northbound lanes gradually slope down toward the southbound lanes. The primary viewers from this viewpoint are motorists traveling northbound on I-405; however, some residences in the Woodridge neighborhood have a similar view of downtown Bellevue and territorial views of west Bellevue. We consider this viewpoint the entry point to the city. This viewpoint has a high vividness and viewer sensitivity due to the visually striking skyline features. However, we rank the visual quality 3.9, or average/moderate overall, due to the fact that the unity and intactness are only average in the foreground and middle ground.



Viewpoint 6: View toward the downtown Bellevue skyline from the SE 8th Street off-ramp

Viewpoint 7: Wilburton Trestle

This viewpoint is from the SE 8th Street northbound off-ramp towards the Wilburton Trestle. In the foreground, the right of way landscaping includes low-lying groundcover, grasses, shrubs, and deciduous trees. The Wilburton Trestle is in the middle ground, and Wilburton neighborhood residences in the background. The Wilburton Trestle is a Bellevue historic resource and is prominent in the view. It extends high above Lake Hills Connector Road, crossing the valley and bridging the two ridges. This viewpoint is located within the Wilburton Landscape Unit. To the north of the Wilburton Trestle is the Wilburton neighborhood; to the south of the trestle is the Woodridge neighborhood. This view has moderately high vividness and unity. The mix of natural and ornamental tree cover blends together to convey a moderately high level of vegetation. We rank the visual quality is ranked 4.1 (average).



Viewpoint 7: Looking east towards the Wilburton Trestle from SE 8th Street off-ramp

Views to the Road

Viewpoint 1: From the Woodridge Neighborhood



Viewpoint 1: Looking southwest from the Woodridge neighborhood toward the I-90 interchange

This view is located within the Woodridge Landscape Unit. The picture, taken from property immediately adjacent to the right of way, looks southwest towards the interchange with I-90 and the southern end of Mercer Slough. This view is typical in this area where noise walls do not block views to the road. The multi-family residences immediately abutting the right of way are the primary viewers from this location. The north- and southbound lanes dominate the view, although the foreground and background contain a mix of vegetation and tree cover. Overall, the vividness is moderately low to average; we rank intactness average to moderately high due to the dominance of the natural environment; and the unity rating is moderately low to average. The visual quality is ranked as 3.5, or moderately low to average.

Viewpoint 3: From the Norwood Village Neighborhood



Viewpoint 3: From the Woodridge neighborhood looking northwest toward downtown Bellevue

This view is located within the Woodridge Landscape Unit. The picture, taken from public property immediately adjacent to the I-405 right of way (near the 121st Avenue SE cul-de-sac), looks northwest toward downtown Bellevue. This view typifies the limited views that people can see of the freeway from residences east of and abutting the I-405 corridor where noise walls do not obscure views of the highway. Due to changes in topography, views of the freeway from residences in the Norwood Village and Woodridge neighborhoods are limited to those residences immediately abutting the I-405 corridor and where breaks in the sound wall occur. The freeway and landscaped median comprise the foreground; vegetation in and around Mercer Slough Nature Park, the middle ground; and the Bellevue skyline, the background. From this vantage point, views towards the Overlake Blueberry Farm fields are also visible. This view has an average to moderately high vividness, intactness, and unity rating due to the high level of natural elements that blend with artificial elements into the overall landscape. The overall visual quality is ranked 4.6 or average to moderately high.

Viewpoint 8: 118th Avenue SE



Viewpoint 8: View from 118th Avenue SE toward the southbound lanes.

This view is from 118th Avenue SE looking southeast toward the I-405 southbound lanes. Drivers, pedestrians, and bicyclists traveling along 118th Avenue SE see this view. The viewpoint is within the Bellevue Landscape Unit. 118th Avenue SE is a bicycle route and contains a designated pedestrian trail that connects to the Mercer Slough Nature Park. The southbound

lanes and landscaped median comprise the foreground; northbound lanes, the middle ground; and the Woodridge residential neighborhood, the background. Vividness, intactness, and unity are all rated low. Overall visual quality ranks 2.8 or low to moderately low.

Viewpoint 9: SE 8th Street/118th Avenue SE

This view looks out from the intersection of SE 8th Street and 118th Avenue SE, near the Wilburton Park and Ride Lot. From this intersection, local traffic along 118th Avenue SE, businesses, pedestrians, and bicyclists can see the I-405 southbound lanes. The northbound lanes are not visible from this vantage point. The viewpoint is within the Bellevue Landscape Unit. This view has a mix of encroaching built elements and rates low for vividness, intactness, and unity. Visual quality is low (2.0).



Viewpoint 9: Looking east toward I-405 from the intersection of SE 8th Street and 118th Avenue SE

Who will experience changes to their views and visual quality and how sensitive are they to the changes?

For the Bellevue Nickel Improvement Project, we categorized the viewers who use the I-405 corridor and those who are neighbors of the corridor. We grouped the viewers who utilize the I-405 corridor as roadway users or drivers, passengers, commuters, and tourists. Neighbors of the I-405 corridor include residences, adjacent businesses, pedestrians, and bicyclists. We describe these groups in the following sections.

I-405 Users

One of the largest viewer groups of the proposed project is motorists along I-405. I-405 is a commuter route, and frequent viewers include local residents, commuters, and tourists.

Viewers who frequently travel the roadway generally possess low visual sensitivity to their surroundings. The passing landscape becomes familiar to these viewers, and they typically do not focus their attention on the passing views. At standard roadway speeds, views are of short duration and roadway users are fleetingly aware of their surroundings, including traffic, road signs, and other visual features. Therefore, we generally consider these viewers to have low visual sensitivity.

Visual sensitivity is generally higher for views seen by people who are driving for pleasure, such as tourists, and passive

motorists, such as vehicular passengers. Motorist recognition increases where change in the landscape character occurs. All individual views from the roadway last a relatively short time due to the movement and speed of the viewer. However, view duration varies with the season and climatic conditions.

I-405 Neighbors

Residents

Residents in the Woodridge Landscape Unit are the most likely to be affected by the proposed project. Topography, fences, tall sound walls, and landscape buffers separate most residents abutting I-405 from the right of way. However, some residents in the Woodridge neighborhood may have moderate to high sensitivity to changes to the roadway, given the proximity and location above I-405. Residents in this unit are likely accustomed to the traffic; the sight of the mature vegetated median; and limited views of I-405.

Many of these residents have expansive views over the highway of Lake Washington, the Olympic Mountains, Mercer Slough Nature Park, and the Bellevue and Seattle skylines. Those residents immediately abutting the I-405 corridor are oriented away from the freeway, with their backyards adjacent to the right of way. Residential viewers typically have extended viewing periods and are concerned about changes in the views from their homes; we generally consider them to have high visual sensitivity.

Businesses

Vegetation, the BNSF railroad right of way, and/or 118th Avenue SE separate businesses along 118th Avenue SE (Bellevue and Mercer Slough Landscape Units) from the I-405 corridor. Views to I-405 from 118th Avenue SE are limited to the area near the SE 8th Street interchange and on-ramp. In the northern project limits, businesses east of the I-405 corridor include offices and government buildings (e.g., City Hall). Businesses are likely accustomed to the traffic and sight of the vegetated right of way and are likely to have low to moderate viewer sensitivity.

Pedestrians and Bicyclists

Pedestrians and bicyclists who will view the proposed project are more likely to regard the natural and built surroundings as a seamless visual experience. These users travel at slower speeds,

have an awareness of details, will have longer viewing sequences, and will be accustomed to the traffic, sight of the vegetated right of way, and the views of the roadway. Pedestrians and bicyclists along 118th Avenue SE will have limited views of the I-405 right of way, primarily near the SE 8th Street interchange and on-ramp. 118th Avenue SE is a designated bicycle route and trail connecting downtown Bellevue to the Mercer Slough Nature Park. People engaging in recreational activities, such as hiking or biking, tend to have higher viewer sensitivity, given the speed with which they move through their environment. However, within the study area, pedestrians and bicyclists will be moderately sensitive to visual changes because existing views to the highway are limited from sidewalks, trails, and bike routes.



Traffic moving through the existing Wilburton Tunnel

Potential Effects

What are the potential effects on structures, vegetation, and views due to the project?

The Build Alternative will result in permanent changes to the visual environment for both I-405 users and neighbors. The potential effects on views associated with the Build Alternative will likely be as follows:

- Increased views of pavement due to the creation of new travel lanes.
- Greater visibility to and from I-405 in some sections of the corridor due to the removal of existing mature vegetation and large stands of trees, particularly within the existing median.
- Views of 50-foot-tall retaining walls along the eastern edge of the southbound roadway, adjacent to the median, from the southbound direction. These new retaining walls will not be visible to northbound motorists. The retaining walls will also be visible from local traffic and businesses along 118th Avenue SE. The height of these retaining walls, as well as their proximity to the travel lanes, will limit the ability to screen the walls with vegetation.
- Limited views of a noise barrier approximately 725 feet long and 16 feet high along the eastern edge of the I-405 right of way. This noise wall will not have a substantial visual effect to viewers from I-405 in areas where vegetation exists and will remain between the noise wall and the roadway.



Many viewpoints in the study area will experience no change as a result of the project.

Proposed textured finishes for the noise walls, as well as plantings along the walls, will make them less visually apparent. Neighbors adjacent to the walls may see them; however, vegetation will also make the walls less visually apparent.

- Views looking from I-405 will not substantially change, although changes in the elevation of travel lanes, the heights of noise and retaining walls, and the removal of vegetative screening will alter some views, particularly within the Woodridge and Bellevue Landscape Units.
- Distant views to visual resources such as Mount Rainier or the Bellevue skyline will not change substantially. The increased mass and pavement of the project improvements will be visible, although the buffering effects of distance, the screening provided by wooded hillsides, and the dominance of other elements in the viewers foreground will preclude any substantial visual effects.
- Construction-related activities involving construction equipment, workers, staging areas, cut-and-fill activities, removal of vegetation in the median, and nighttime lighting will create temporary effects to visual quality as described in greater detail below.

Representative View Analysis

For many of the viewpoints analyzed in the previous section, we expect either no or minimal visual effect because there is virtually no change in the visual quality of the affected environment. We include the Visual Quality rating matrix as Appendix B, which shows the change in the visual quality ratings from current conditions (as described in the Existing Conditions section of this report) to the changes associated with the Build Alternative.

Artists' renderings included as Exhibits 11 and 12 show the extent of the project's potential visual quality effects, particularly those effects associated with the visual resources in the study area: the Wilburton Tunnel and the downtown Bellevue skyline.

Exhibit 11. Possible Configuration of New Wilburton Tunnel (Viewpoint 5)

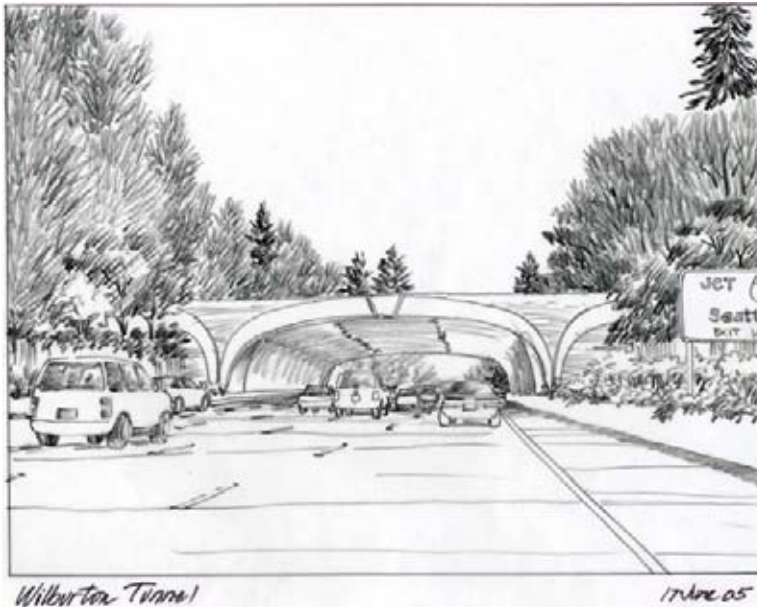


Exhibit 11 shows the reconstruction and widening of the Wilburton Tunnel/overpass that will affect the current visual quality for southbound I-405 users. This artist rendering is the view from the perspective of a southbound motorist heading toward the proposed Wilburton Tunnel. The tunnel, as proposed, will be located east of the current tunnel location, as shown in Viewpoint 5. Vegetation cascading over the sides of the current structure will no longer be present, and the new tunnel structure will be wider, with a greater visual mass and larger footprint. WSDOT has the option to plant new vegetation over the top of the new tunnel.

Although over time new vegetation will grow along the sides of the tunnel structure and on either side of the right of way to soften project activities, viewer sensitivity for southbound motorists will be moderately high initially. The Wilburton Tunnel is a feature in the corridor that motorists readily identify with, as it is a highly visible structure in this portion of the corridor. The changes to the tunnel will not be visible from northbound lanes or neighbors east of I-405. We do not consider changes to visual quality significant. The visual quality rating changes from 4.4 to 3.8 due to the new artificial features and reduction of existing vegetation.

Exhibit 12. Future View toward Downtown Bellevue (Viewpoint 6)



As is shown in Exhibit 12, views to the downtown Bellevue skyline for northbound motorists will be substantially unaffected. This artist rendering is the view from the perspective of a motorist driving northbound at approximately Milepost 12.4. Project construction may remove some vegetation in the foreground but this will serve to open up rather than obscure views towards downtown. Removal of the median landscaping will also result in more of the southbound lanes being visible in the foreground. The visual quality rating changes minimally, from 3.9 to 3.7.

Existing Views from the Road

For the remaining viewpoints of views from the road, there are no changes to visual quality. We do not anticipate views from Viewpoint 2 (Mount Rainier and Newport Hills), Viewpoint 4 (northbound travel lanes), and Viewpoint 7 (Wilburton Trestle), to change based on the Build Alternative.

Views to the Road

Viewpoint 1: From the Woodridge Neighborhood

There are limited views to the project from the neighbors to the east. Existing noise walls block most of the direct views to the project. However, there are a few locations where there are breaks in the noise walls. The construction of a new noise barrier approximately 725 feet long and 16 feet high may

obscure some of these views to the project. Given that noise walls currently exist and the views to the project are limited, we do not anticipate a significant change to visual quality. The visual quality rating decreases from 3.5 to 3.2 or becomes moderately low due to the introduction of new artificial features in the foreground.

Viewpoint 3: From the Norwood Village Neighborhood

Similar to Viewpoint 1, existing noise walls block most of the direct views to the project. The construction of a new noise wall approximately 725 feet long and 16 feet high may obscure some of these views to the project. Given that noise walls currently exist and the views to the project are limited, we do not anticipate a significant change to visual quality. The visual quality rating decreases from 4.6 to 3.6 or from moderately high/average to average/moderately low due to the introduction of new artificial features in the foreground.

Viewpoint 8: 118th Avenue SE

This view, looking east towards the project, will change as a result of the Build Alternative, primarily due to the removal of median landscaping to accommodate a new southbound travel lane. Project construction will reduce the vegetation in the middle ground. The visual quality rating will change from 2.8 to 2.4 or moderately low to low.

Viewpoint 9: SE 8th Street/118th Avenue SE

No noticeable visual change will result from project activities. The visual quality rating changes insignificantly from 2.0 to 1.9 as a result of the Build Alternative.

Who will experience changes to views and visual quality in these areas and how sensitive are they to the changes?

The I-405 Build Alternative will alter the visual environment experienced by I-405 users and residents and businesses in the surrounding area. Although the project-related effects are permanent, we do not consider them substantial because of the Context Sensitive Solutions (CSS) included in the project design and the relatively moderate to low viewer sensitivity.

I-405 Users

We consider I-405 users to have low visual sensitivity to their surroundings. Southbound motorists will experience the greatest change in visual quality resulting from the reconfiguration of the Wilburton Tunnel, removal of vegetation along the landscaped median, and the construction of high retaining walls. All individual views from the roadway last a relatively short time due to the movement and speed of the viewer.

I-405 Neighbors

Residents

Residents in the Woodridge Landscape Unit are the most likely to be affected by the proposed project. Topography, fences, existing noise walls, and landscape buffers separate most residences abutting I-405 from the right of way. However, some residents in the Woodridge Landscape Unit may have moderate to high sensitivity to changes to the roadway given the proximity and location above I-405, and the installation of a new noise wall approximately 725 feet long and 16 feet high. In addition, the removal of vegetation in the landscaped median may reduce screening of the southbound lanes and expose more of the southbound lanes to their line of sight. The removal of landscaping in the median may also open up distance views to the Olympic Mountains, and Seattle and Bellevue skylines for residents east of I-405 (and where noise walls do not exist).

Businesses

Businesses adjacent to the study area are likely accustomed to the traffic and sight of the highway. Views from businesses to the right of way are limited to those businesses in the Bellevue Landscape Unit near SE 8th Street. These viewers will observe some changes associated with increased light and glare from the additional travel lanes. Some businesses along SE 118th Avenue may also see a change in the median landscaping because of vegetation removal necessary to accommodate an additional southbound lane and the construction of the new 50-foot-high retaining walls. However, due to the distance between these viewers and project-related activities, we consider the viewer sensitivity to be low.

Pedestrians and Bicyclists

Pedestrians and bicyclists who will view the proposed project are more likely to notice the project activities in the northern project limits near SE 8th Street and SE 118th Avenue. However, within the study area, pedestrians and bicyclists will be moderately sensitive to visual changes because existing views to the highway are limited from sidewalks, trails, and bike routes.

Will the project create new sources of shadow, glare, or light?

Generally, light and glare effects will remain about the same for most of the roadway as the design includes no new sources of light, glare, or shadow in the study area. The addition of some light and glare is likely to occur due to additional lanes of travel. Moreover, some of the southbound roadway lighting may be more visible to residents on the east side of the I-405 corridor due to the removal of some vegetation in the median.

How will project construction temporarily affect visual quality and aesthetics?

Construction-related activities include the presence of construction equipment and workers, materials, debris, signage, and staging areas. Construction-related activities will temporarily affect I-405 users and neighbors during construction. Potential temporary effects include:

- Temporary lighting used for nighttime construction and the associated light and glare from this lighting.
- Loss of mature vegetation due to clearing and grading operations. Views looking toward I-405 may see more of the roadway as a result of the vegetation removal in some areas. Most of the clearing and grading activities will occur within the median and not along the interface with adjacent property owners. In some areas, exposure to glare generated by construction (illumination, headlights, construction lighting, and solar reflection) may increase with removal of roadside vegetation.
- Detours, traffic control devices, or lane shifts will require greater driver attention and may distract motorists from views outside the construction areas.

- We do not expect construction to affect most views. Temporary clutter may appear in some views because of the presence of construction activities, equipment, stored materials, and general disruption of landscaping with fencing, equipment, vehicles, and lighting.

Does the project have other effects that could be delayed or distant from the project?

No notable adverse affects would occur later in time or be farther removed in distance from the project than those already described in this report. Over time, the visual quality of the study area will improve as landscaping and other vegetation matures and softens the appearance of retaining walls, the new Wilburton Tunnel, and other structures and screens various project features from affected viewers.

Did we look at cumulative effects for the Build and No Build Alternatives?

The team did not evaluate cumulative effects for this discipline. A report of cumulative effects is not necessary for every discipline studied for NEPA and SEPA documentation. The disciplines that we studied for cumulative effects are Air Quality, Surface Water, Fish and Aquatic Habitat, and Wetlands. We present the cumulative effects for these disciplines in the Cumulative Effects Analysis Discipline Report.

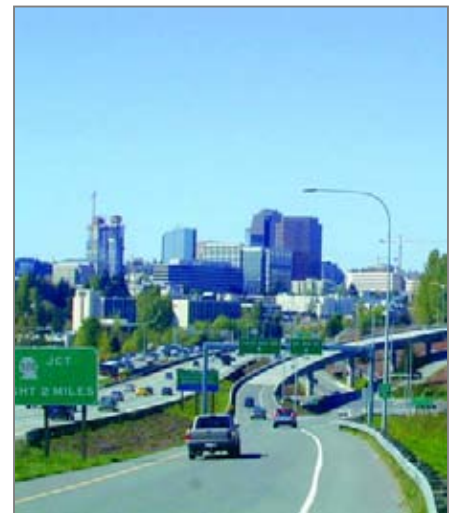
Measures to Avoid or Minimize Project Effects

What have we done to avoid or minimize negative effects?

We incorporated context sensitive solutions (CSS) into the project design to minimize the negative visual effects of the project. We developed these design solutions with community input to ensure that community concerns relating to aesthetics and visual quality received attention early in the project. We have designed context sensitive elements such as new landscaping and plantings along the corridor (slope plantings and terraced wall plantings) and tree and shrub installations at local underpasses (at SE 8th Street) and overpasses (Wilburton Tunnel) to screen built features and to minimize the effects of the Build Alternative.

WSDOT will also install landscaping and screening at the I-90/I-405 interchange just south of the project limits. In addition, new noise walls and retaining walls will have customized aesthetic design treatments to soften the look and feel of these new structures. Other examples of treatments that will be employed to avoid or minimize negative effects include shielding light fixtures to minimize glare and uplighting, applying texture and color to concrete walls to reduce apparent scale, and replacing vegetation to provide screening.

Context Sensitive Solutions is a term used to describe a collaborative, interdisciplinary approach whereby a transportation facility is designed with extensive input from the public to fit its physical setting and preserves scenic, aesthetic, historic, and environmental resources, while maintaining safety and mobility.



The Bellevue skyline from NB I-405

We can address light and glare effects associated with nighttime construction activities by using downcast lighting sources and shielding freeway lighting.

How will the project mitigate unavoidable negative effects?

The project will not result in any unavoidable negative effects; therefore no mitigation is required.



Additional travel lanes will immediately benefit local residents, commuters, transit riders, and freight haulers.

References

City of Bellevue. 2005. City of Bellevue Comprehensive Plan, January.

DEA (David Evans and Associates, Inc.) 2001. I 405 Corridor Program NEPA/SEPA Draft Environmental Impact Statement, *Draft Visual Resources Expertise Report*. Submitted to WSDOT (Washington State Department of Transportation). Revised August.

FHWA (Federal Highway Administration). 1988. Visual Impact Assessment for Highway Projects (FHWA-HI-88-054). USDOT (US Department of Transportation).

WSDOT (Washington State Department of Transportation). 2004. Environmental Procedures Manual M31-11; Section 459 Visual Impacts, Light and Glare.

———. 2000. Roadside Manual.

———. 1996. Roadside Classification Plan.

Appendix A

Avoidance and Minimization Measures

Avoidance and Minimization Measures

The following sections describe the established design and construction practices that WSDOT will include to avoid or minimize effects to the various environmental resources during both the construction and operation phases of the project.

Project Measures to Avoid or Minimize Effects During Construction

Design elements, such as modifications to boundaries of areas that can be affected, have been incorporated into the project specifications, construction plans, and procedures, to help avoid or minimize most potential construction impacts. When appropriate, monitoring will be conducted to ensure that these design and construction measures are effective.

Measures for Geology, Soils, and Groundwater

- WSDOT will prepare and implement a Temporary Erosion and Sedimentation Control (TESC) plan consisting of operational and structural measures to control the transport of sediment. Operational measures include removing mud and dirt from trucks before they leave the site, covering fill stockpiles or disturbed areas, and avoiding unnecessary vegetation clearing. Structural measures are temporary features used to reduce the transport of sediment, such as silt fences and sediment traps.
- WSDOT will reduce degradation of moisture-sensitive soils by limiting major earthwork to the drier, late spring through early fall construction season; by maintaining proper surface drainage to avoid ponding of surface water or groundwater; by minimizing ground disturbance through limiting the use of heavy equipment, limiting turns, and/or not tracking directly on the subgrade; and by covering the final subgrade elevation with a working mat of crushed rock and/or geotextile for protection. Mixing a soil admix such as cement into the subgrade may also add strength and stabilize the ground.
- WSDOT will determine acceptable limits for off-site construction-related ground vibration before construction begins and demonstrate that off-site ground vibrations are within the limits set for the project through the use of vibration-monitoring equipment.
- WSDOT will identify areas subject to shaking from a large earthquake and will mitigate risks using ground modifications or other procedures identified in the WSDOT Geotechnical Design Manual.
- WSDOT will implement construction procedures identified in the geotechnical investigation to maintain or enhance slope stability in areas potentially underlain by landslide-prone soils.
- WSDOT will protect the Kelsey Creek aquifer from contamination by construction-related spills by development and implementation of BMPs and a Spill Prevention Control and

Countermeasures plan (SPCCP). The SPCC will specifically address fuel spills from vehicles and from spills of other chemicals commonly transported over I-405. Spill response equipment will be located at regular and specified intervals within the project area for minimizing countermeasure response times.

- WSDOT will ensure only clean fill is imported and placed for the project and will require documentation for fill brought onto the site from the supplier certifying that the fill does not exceed Washington State soil cleanup standards. If documentation is not available, testing of imported fill soils will be required prior to placement. Suspect soils encountered during project construction will be tested and, where necessary, removed from the site and disposed of in accordance with Washington State regulations.
- WSDOT will identify and develop staging areas for equipment repair and maintenance away from all drainage courses. Washout from concrete trucks will not be dumped into storm drains or onto soil or pavement that carries stormwater runoff. A wash down area for equipment and concrete trucks will be designated and the use of thinners and solvents to wash oil, grease, or similar substances from heavy machinery or machine parts will be prohibited.
- WSDOT will obtain a NPDES (National Pollutant Discharge Elimination System) permit and will conduct a regular program of testing and lab work to ensure that water encountered during construction meets the water quality standards specified in the NPDES permit.
- WSDOT will to meet the NPDES water quality standards prior to the discharge of the encountered water to a surface water body, such as Kelsey Creek. If necessary, water quality will be improved, such as by using sediment ponds to allow sediment to settle out prior to discharge.
- If it is necessary to install seepage drains to control seepage for retaining walls and fill embankments, WSDOT will include special provisions in the design to discharge drain flow back into affected areas, including wetlands.

Measures for Water Quality

In addition to measures for geology, soils, groundwater, and for hazardous materials that are protective of water quality, the following measures would be implemented for water quality.

- WSDOT will identify and develop staging areas for equipment repair and maintenance away from all drainage courses.
- Washout from concrete trucks will not be dumped into storm drains or onto soil or pavement that carries stormwater runoff.
- Thinners and solvents will not be used to wash oil, grease, or similar substances from heavy machinery or machine parts.
- WSDOT will designate a wash down area for equipment and concrete trucks.

Measures for Wetlands

- WSDOT will protect, preserve, and enhance wetlands in the project area during the planning, construction, and operation of transportation facilities and projects consistent with USDOT Order 5660.1A, Executive Order 11990, and Governor's Executive Orders EO 89-10 and EO 90-04.
- WSDOT's project-level design and environmental review has included avoidance, minimization, restoration, and compensation of wetlands. WSDOT will implement these measures prior to or concurrent with adverse effects on wetlands, to reduce temporal losses of wetland functions.
- WSDOT will follow guidance contained in the wetlands section of the WSDOT Environmental Procedures Manual (WSDOT 2004a), which outlines the issues and actions to be addressed prior to authorizing work that could affect wetlands.
- WSDOT will use high-visibility fencing to clearly mark wetlands to be avoided in the construction area.

Measures for Upland Vegetation and Wildlife

- WSDOT will ensure mitigation measures established in the I-405 Corridor EIS will be implemented on the Bellevue Nickel Improvement Project.
- WSDOT will prepare and implement a revegetation plan. In addition, areas with mixed forest will not be removed for temporary use (i.e., construction staging). If an area of mixed forest must be removed for roadway construction, it will be replaced with plantings of native tree and shrub species within the affected area.
- WSDOT will adhere to project conditions identified in the Biological Assessment and agency concurrence letters.
- WSDOT will limit construction activity to a relatively small area immediately adjacent to the existing roadway to minimize vegetation clearing and leave as many trees as possible.

Measures for Fisheries and Aquatic Resources

- WSDOT will implement construction BMPs (such as silt fencing or sedimentation ponds) to avoid disturbing sensitive areas during the development and use of any staging areas, access roads, and turnouts associated with resurfacing activities.
- WSDOT will not allow in-water work to occur except during seasonal work windows established to protect fish.
- WSDOT will require that all stormwater treatment wetland/detention facilities are sited and constructed at a sufficient distance from named and unnamed streams so no grading or filling in the streams or the streamside zones will be required.

Measures for Air Quality

- WSDOT will require preparation and implementation of a Fugitive Dust Control Plan in accordance with the Memorandum of Agreement between WSDOT and PSCAA Regarding Control of Fugitive Dust from Construction Projects (October 1999).
- During dry weather, exposed soil will be sprayed with water to reduce emissions of and deposition of particulate matter (PM₁₀).
- WSDOT will provide adequate freeboard (space from the top of the material to the top of the truck), cover truckloads, and, in dry weather, wet materials in trucks to reduce emission of and deposition of particulate matter during transport.
- WSDOT use wheel washers to remove particulate matter that would otherwise be carried offsite by vehicles to decrease deposition of particulate matter on area roadways.
- WSDOT will remove particulate matter deposited on public roads to reduce mud on area roadways.
- WSDOT will cover or spray with water any dirt, gravel, and debris piles during periods of high wind when the stockpiles are not in use to control dust and transmissions of particulate matter.
- WSDOT will route and schedule construction trucks to reduce travel delays and unnecessary fuel consumption during peak travel times, and therefore reduce secondary air quality impacts (i.e. emissions of carbon monoxide and nitrogen oxides) that result when vehicles slow down to wait for construction trucks.

Measures for Noise

- Noise berms and barriers will be erected prior to other construction activities to provide noise shielding.
- The noisiest construction activities, such as pile driving, will be limited to between 7 AM and 10 PM to reduce construction noise levels during sensitive nighttime hours.
- Construction equipment engines will be equipped with adequate mufflers, intake silencers, and engine enclosures.
- Construction equipment will be turned off during prolonged periods of nonuse to eliminate noise.
- All equipment will be maintained appropriately and equipment operators will be trained in good practices to reduce noise levels.
- Stationary equipment will be stored away from receiving properties to decrease noise.
- Temporary noise barriers or curtains will be constructed around stationary equipment that must be located close to residences.
- Resilient bed liners will be required in dump trucks to be loaded on site during nighttime hours.

- WSDOT use Occupational Safety and Health Administration (OSHA)-approved ambient sound-sensing backup alarms that would reduce disturbances during quieter periods.

Measures for Hazardous Materials

Known or Suspected Contamination within the Build Alternative Right of Way

- WSDOT will prepare an SPCCP that provides specific guidance for managing contaminated media that may be encountered within the right of way (ROW).
- WSDOT may be responsible for remediation and monitoring of any contaminated properties acquired for this project. WSDOT will further evaluate the identified properties before acquisition or construction occurs. Contamination in soils will be evaluated relative to the Model Toxics Control Act (MTCA).
- If WSDOT encounters an underground storage tank (UST) within the ROW, WSDOT will assume cleanup liability for the appropriate decommissioning and removal of USTs. If this occurs, WSDOT will follow all applicable rules and regulations associated with UST removal activities.
- WSDOT will conduct thorough asbestos-containing material/lead paint building surveys by an Asbestos Hazard Emergency Response Act (AHERA)-certified inspector on all property structures acquired or demolished. WSDOT will properly remove and dispose of all asbestos-containing material/lead-based paint in accordance with applicable rules and regulations.
- Construction waste material such as concrete or other harmful materials will be disposed of at approved sites in accordance with Sections 2-01, 2-02, and 2-03 of the WSDOT Standard Specifications.
- WSDOT may acquire the responsibility for cleanup of any soil or groundwater contamination encountered during construction (that must be removed from the project limits) within WSDOT ROW. Contamination will be evaluated relative to Model Toxics Control Act (MTCA) cleanup levels.
- WSDOT will consider entering into pre-purchaser agreements for purpose of indemnifying itself against acquiring the responsibility for any long-term cleanup and monitoring costs.
- All regulatory conditions imposed at contaminated properties (e.g., Consent Decree) associated with construction will be met. These conditions could include ensuring that the surrounding properties and population are not exposed to the contaminants on the site: i.e., WSDOT will ensure that the site is properly contained during construction so that contaminants do not migrate offsite, thereby protecting the health and safety of all on-site personnel during work at the site.

Known or Suspected Contamination Outside of the Right of Way

- Contaminated groundwater originating from properties located up-gradient of the ROW could migrate to the project area. WSDOT generally will not incur liability for groundwater contamination that has migrated into the project footprint as long as the agency does not

acquire the source of the contamination. However, WSDOT will manage the contaminated media in accordance with all applicable rules and regulations.

Unknown Contamination

- If unknown contamination is discovered during construction, WSDOT will follow the SPCCP as well as all appropriate regulations.

Worker and Public Health and Safety and other Regulatory Requirements

The WSDOT will comply with the following regulations and agreements:

- State Dangerous Waste Regulations (Chapter 173-303 WAC);
- Safety Standards for Construction Work (Chapter 296-155 WAC);
- National Emission Standards for Hazardous Air Pollutants (CFR, Title 40, Volume 5, Parts 61 to 71);
- General Occupational Health Standards (Chapter 296-62 WAC); and
- Implementing Agreement between Ecology and WSDOT Concerning Hazardous Waste Management (April 1993).

Hazardous Materials Spills During Construction

- WSDOT will prepare and implement a SPCCP to minimize or avoid effects on human health, soil, surface water and groundwater.

Measures for Traffic and Transportation

- WSDOT will coordinate with local agencies and other projects to prepare and implement a Traffic Management Plan (TMP) prior to making any changes to the traffic flow or lane closures. WSDOT will inform the public, school districts, emergency service providers, and transit agencies of the changes ahead of time through a public information process. Pedestrian and bicycle circulation will be maintained as much as possible during construction.
- Prior to and during construction, WSDOT will implement strategies to manage the demand on transportation infrastructure. These transportation demand management strategies will form an important part of the construction management program and will be aimed at increasing public awareness and participation in HOV travel. The major focus will be on expanding vanpooling and van-share opportunities. Other elements of the transportation demand management plan may include:
 - increased HOV awareness and public information, and
 - work-based support and incentives.

Measures for Visual Quality

- WSDOT will follow the I-405 Urban Design Criteria. Where the local terrain and placement of light poles allow, the WSDOT will reduce light and glare effects by shielding roadway lighting and using downcast lighting so light sources will not be directly visible from residential areas and local streets.
- WSDOT will restore (revegetate) construction areas in phases rather than waiting for the entire project to be completed.

Measures for Neighborhoods, Businesses, Public Services and Utilities

- WSDOT will prepare and implement a transportation management plan (TMP). If local streets must be temporarily closed during construction, WSDOT will provide detour routes clearly marked with signs.
- WSDOT will coordinate with school districts before construction.
- WSDOT will implement and coordinate the TMP with all emergency services prior to any construction activity.
- WSDOT will coordinate with utility providers prior to construction to identify conflicts and resolve the conflicts prior to or during construction. Potential utility conflicts within WSDOT ROW will be relocated at the utility's expense prior to contract award.
- WSDOT will prepare a consolidated utility plan consisting of key elements such as existing locations, potential temporary locations and potential new locations for utilities; sequence and coordinated schedules for utility work; and detailed descriptions of any service disruptions. This plan will be reviewed by and discussed with affected utility providers prior to the start of construction.
- WSDOT will field verify the exact locations and depths of underground utilities prior to construction.
- WSDOT will notify neighborhoods of utility interruptions by providing a scheduled of construction activities in those areas.
- WSDOT will coordinate with utility franchise holders and provide them with project schedules to minimize the effects of utility relocations (for example, equipment procurement times, relocation ahead of construction, etc.)
- WSDOT will notify and coordinate with fire departments for water line relocations that may affect water supply for fire suppression, and establish alternative supply lines prior to any breaks in service; and to ensure that fire departments can handle all calls during construction periods and to alleviate the potential for increased response times.
- WSDOT will notify and coordinate with police departments to implement crime prevention principles and to ensure that they have adequate staffing to provide traffic and pedestrian control.

- WSDOT will maintain access to businesses throughout the construction period through careful planning of construction activities and an awareness of the needs to provide adjacent properties with reasonable access during business hours. As part of construction management, WSDOT will prepare access measures. WSDOT will make provisions for posting appropriate signs to communicate the necessary information to potential customers.
- WSDOT will keep daytime street closures to a minimum to provide access for businesses during regular business hours.

Measures for Cultural Resources

- WSDOT will prepare an Unanticipated Discovery Plan for the project that WSDOT will follow. This will avoid or minimize unanticipated effects to historic, cultural, and archaeological resources.

Project Measures to Avoid or Minimize Effects During Project Operation

The following sections describe the measures that WSDOT will implement during project operation.

Measures for Surface Waters and Water Quality

- WSDOT will follow the Highway Runoff Manual for both the design and implementation of stormwater facilities. WSDOT is not required to manage flow where drainage is directly to Mercer Slough. Where drainage is to a tributary to Mercer Slough, WSDOT will construct a stormwater management system that does provide flow control.

Measures for Fisheries and Aquatic Resources

- WSDOT will compensate for adverse effects to fish habitat and aquatic resources by providing in-kind mitigation. This in-kind mitigation will take the form of on-site, off-site, or a combination of on- and off-site mitigation.
- Off-site mitigation could include planting native riparian vegetation outside of the study area in areas where restoring native riparian buffers may have a greater benefit to fish and aquatic species. Mitigation could be concentrated along streams with high fish use where important stream processes and functions related to riparian buffers (for example, large woody debris [LWD] recruitment levels, litter fall, and bank stabilization) are impaired.
- On-site/off-site mitigation could include installing in-stream habitat features (for example, boulders or LWD) in the streambed downstream of the project footprint to increase the habitat complexity of the affected waterbody.

- Ongoing maintenance (during and post-construction) of stormwater treatment and detention facilities by WSDOT will not include the application of any chemical weed control agents (e.g., herbicides).

Measures for Upland Vegetation and Wildlife

- WSDOT will replace areas of mixed forest that will be permanently removed for roadway construction with plantings of native tree and shrub species within the affected area.

Appendix B

Visual Quality Rating Matrix

VIEW TO THE ROAD

VISUAL QUALITY ASSESSMENT

I-405 Bellevue Nickel Improvement Project
12-Sep-05

4405 Bellevue Nickel Improvement Project 12-Sep-05											
VIEW UNIT NUMBER (Existing, P=proposed)											
GENERAL VISUAL QUALITY											
SPECIAL FEATURES											
LEVEL 1	I FOREGROUND	LAND	3	2	3	2	2	1	1		
		WATER	1	1	1	1	1	1	1		
		VEGETATION	3	3	5	3	2	1	1		
		MAN-MADE	3	3	3	2	2	2	2		
	AVERAGE I		2.5	2.25	3	2.25	1.75	1.25	1.25		
	II MIDDLEGROUND	LAND	3	3	4	3	4	3	1		
		WATER	1	1	1	1	1	1	1		
		VEGETATION	3	3	6	3	6	3	2		
		MAN-MADE	3	3	4	4	3	4	2		
	AVERAGE II		2.5	2.5	3.75	2.75	3.5	2.75	1.5	1.25	
III BACKGROUND	LAND	5	5	5	5	4	4	2	2		
	WATER	1	1	1	1	1	1	1	1		
	VEGETATION	5	5	5	3	6	4	3	2		
	MAN-MADE	4	4	6	6	3	3	3	3		
AVERAGE III		3.75	3.75	4.25	3.75	3.5	3	2.25	2		
LEVEL 2	I	MAN-MADE	5	2	5	2	2	2	3	3	
		NATURAL ENVIRONMENT	3	3	6	4	1	1	1	1	
		AVERAGE I		4	2.5	5.5	3	1.5	1.5	2	2
		MAN-MADE	4	4	4	4	2	2	3	3	
	II	NATURAL ENVIRONMENT	4	4	6	4	5	3	1	1	
		AVERAGE II		4	4	5	4	3.5	2.5	2	2
		MAN-MADE	5	5	4	4	2	2	2	2	
		NATURAL ENVIRONMENT	5	5	6	5	6	5	4	4	
	AVERAGE III		5	5	5	4.5	4	3.5	3	3	
	I	MAN-MADE	3	2	3	2	2	2	2	2	
OVERALL		3	2	5	2	3	3	2	2		
AVERAGE I		3	2	4	2	2.5	2.5	2	2		
MAN-MADE		3	3	6	6	2	2	2	2		
II	OVERALL	3	3	5	4	3	3	2	2		
	AVERAGE II		3	3	5.5	5	2.5	2.5	2	2	
	MAN-MADE	3	3	6	6	2	2	2	2		
	OVERALL	5	5	5	4	3	3	2	2		
AVERAGE III		4	4	5.5	5	2.5	2.5	2	2		
LEVEL 3	I	WITHIN R/W	3.2	2.3	4.2	2.4	1.9	1.8	1.75	1.75	
		OUTSIDE R/W to NATURAL BREAK	3.2	3.2	4.8	3.9	3.2	2.6	1.8333	1.75	
		NATURAL BREAK to INFINITY	4.3	4.3	4.9	4.4	3.3	3.0	2.4167	2.33333	
		LEVEL OF IMPORTANCE									
	II										
		WITHIN R/W	3.2	2.3	4.2	2.4	1.9	1.8	1.8	1.8	
		OUTSIDE R/W to NATURAL BREAK	3.2	3.2	4.8	3.9	3.2	2.6	1.8	1.8	
	III	NATURAL BREAK to INFINITY	4.3	4.3	4.9	4.4	3.3	3.0	2.4	2.3	
		TOTAL VISUAL QUALITY		3.5	3.2	4.6	3.6	2.8	2.4	2.0	1.9
VIEW UNIT NUMBER (Existing, P=proposed)											
E P E P E P E P E P											

VISUAL QUALITY ASSESMENT

I-405 Bellevue Nickel Improvement Project
12-Sep-05

VIEWS FROM THE ROAD

VIEW UNIT NUMBER (E=existing, P=proposed)		2	2	4	4	5	5	6	6	7	7
GENERAL VISUAL QUALITY		E	P	E	P	E	P	E	P	E	P
LEVEL 1											
	I FOREGROUND	SPECIAL FEATURES									
		LAND		3.0		3.0		3.0		3.0	
		WATER		1.0		1.0		1.0		1.0	
		VEGETATION		2.0		4.0		4.0		3.0	
	II MIDDLEGROUND	MAN-MADE		2.0		2.0		2.0		2.0	
		AVERAGE I		2.0		2.0		2.5		3.0	
		LAND		6.0		6.0		4.0		4.0	
		WATER		1.0		1.0		1.0		1.0	
	III BACKGROUND	VEGETATION		4.0		4.0		5.0		4.0	
		MAN-MADE		4.0		2.0		6.0		6.0	
		AVERAGE II		3.8		3.8		2.8		4.0	
		LAND		6.0		4.0		4.0		3.0	
L		WATER		1.0		1.0		1.0		1.0	
		VEGETATION		4.0		4.0		4.0		5.0	
		MAN-MADE		3.0		3.0		3.0		7.0	
		AVERAGE III		3.5		3.5		2.8		5.0	
E		MAN MADE		6.0		5.0		6.0		2.0	
		NATURAL ENVIRONMENT		4.0		4.0		4.0		2.0	
		AVERAGE I		5.0		4.5		5.5		5.0	
		MAN MADE		5.0		5.0		5.0		2.0	
I		NATURAL ENVIRONMENT		4.0		4.0		4.0		4.0	
		AVERAGE II		4.5		4.5		5.0		4.5	
		MAN MADE		3.0		3.0		5.0		6.0	
		NATURAL ENVIRONMENT		7.0		7.0		4.0		4.0	
2		AVERAGE III		5.0		5.0		4.5		5.0	
		MAN MADE		3.0		3.0		3.0		2.0	
		OVERALL		4.0		4.0		5.0		4.0	
		AVERAGE I		3.5		3.5		4.0		3.5	
	II	MAN-MADE		4.0		4.0		3.0		6.0	
		OVERALL		5.0		5.0		5.0		4.0	
		AVERAGE II		4.5		4.0		4.0		5.5	
		MAN-MADE		4.0		4.0		3.0		6.0	
	III	OVERALL		5.0		5.0		4.0		6.0	
		AVERAGE III		4.5		4.5		4.0		3.5	
		WITHIN R/W		3.5		3.7		4.2		3.0	
		OUTSIDE R/W to NATURAL BREAK		4.3		3.8		3.8		4.2	
AVERAGES		NATURAL BREAK to INFINITY		4.3		3.8		4.1		3.6	
		LEVEL OF IMPORTANCE									
		.									
		.									
FACTOR		WITHIN R/W		3.5		3.7		4.2		3.6	
		OUTSIDE R/W to NATURAL BREAK		4.3		3.8		4.8		3.9	
		NATURAL BREAK to INFINITY		4.3		3.8		4.1		3.6	
		TOTAL VISUAL QUALITY		4.0		3.7		3.7		4.4	
SUB-TOTAL		VIEW UNIT NUMBER		2		2		4		6	
		(E=existing, P=proposed)		E		P		E		P	
				7		7		7		8	
				E		P		E		P	

Evaluation Scale VIVIDNESS

- 7 = VERY HIGH
6 = HIGH
5 = MODERATELY HIGH
4 = AVERAGE
3 = MODERATELY LOW
2 = LOW
1 = VERY LOW TO NON-EXISTENT

INTACTNESS

- (MAN-MADE)
7 = NO DEVELOPMENT TO NON-EXISTENT
6 = LITTLE DEVELOPMENT
5 = SOME DEVELOPMENT
4 = AVERAGE LEVEL OF DEVELOPMENT
3 = MODERATELY HIGH DEVELOPMENT
2 = HIGH LEVEL OF DEVELOPMENT
1 = VERY LOW TO NON-EXISTENT

(NATURAL ENVIRONMENT)

- 7.0 VERY HIGH
6.0 HIGH
5.0 MODERATELY HIGH
4.0 AVERAGE
3.0 MODERATELY LOW
2.0 LOW
1.0 VERY LOW TO NON-EXISTENT

UNITY

- 7.0 VERY HIGH
6.0 HIGH
5.0 MODERATELY HIGH
4.0 AVERAGE
3.0 MODERATELY LOW
2.0 LOW
1.0 VERY LOW